Scottish & Southern Electricity Networks

TRANSMISSION

Environmental Impact Assessment

Scoping Report

Carn Fearna Wind Farm Connection

June 2025

Scottish & Southern Electricity Networks

TRANSMISSION

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GLOSSARY AND ABBREVIATIONS

Term	Definition
132 kV	132 kilovolts (132,000 volts) operating voltage electrical circuit.
Access Strategy	Method for provision of access to the OHL alignment to facilitate construction e.g. the nature, indicative location and extent of temporary access tracks, permanent access tracks and road improvements.
Alignment (potential)	A centre line of an overhead line, along with the location of key angle structures.
Alignment (preferred)	An alignment for the overhead line taken forward to stakeholder consultation following a comparative appraisal of alignment options.
Alignment (proposed)	An alignment taken forward to consent application. It comprises a defined centre line for the overhead line and includes an indicative support structure (tower or pole) schedule, also specifying access arrangements and any associated construction facilities.
Amenity	The natural environment, cultural heritage, landscape and visual quality. Also includes the impact of SSEN Transmission's works on communities, such as the effects of noise and disturbance from construction activities.
Ancient Woodland Inventory (AWI)	A database of land that is currently wooded and has been continually wooded, at least since 1750.
Annex I	Annex I to the EC Habitats Directive lists the types of habitats and the animal and plant species whose conservation requires the designation of special areas of conservation. Some are defined as 'priority' habitats or species in danger of disappearing and for which there are specific rules.
Above Ordnance Datum (AOD)	Refers to a measurement of height or elevation above a standard reference point, known as Ordnance Datum, which is typically mean sea level in the UK. It is used in mapping and surveying to indicate the altitude of a location.
Air Quality Management Area (AQMA)	A designated region where air quality levels do not meet required standards, prompting measures to improve air quality.
Ancillary Works	Supporting or enabling activities required for the construction, operation, or maintenance of the overhead line. This may include access tracks, construction compounds, laydown areas, temporary or permanent fencing, drainage, vegetation clearance, and utility diversions.
Associated Works	Permanent or temporary works required to facilitate the connection of the overhead line, but do not form part of the Proposed Development for the purposes of a section 37 application. This may include substations, cable sealing ends, underground cable sections, tower foundations, and environmental mitigation measures.

Term	Definition
Background Noise (BGN)	Background noise is the noise level in the absence of the industrial noise source under consideration.
British Geology Survey (BGS)	The national geological research organization in the UK, providing detailed geological data, maps, and research to support environmental, planning, and resource management decisions.
Baseline Conditions	The physical, chemical, biological and cultural setting in which the Proposed Development is to be located, and where local impacts (both positive and adverse) might be expected to occur.
Biodiversity Net Gain (BNG)	An approach to development that aims to leave the natural environment in a measurably better state than it was pre-development. It focuses on the change in the biodiversity value of a site, comparing the pre and post construction biodiversity values to ensure a positive effect overall.
Birds of Conservation Concern (BoCC)	A classification system that assesses the conservation status of bird species in the UK, with species categorized based on their risk of decline. Birds of highest concern appear on the Red List.
Broadleaved Woodland	Broadleaved woodland is characterised by trees which do not have needles. Their leaves are broad and vary in shape, and most of them are deciduous. Broadleaved woodlands have 10% or less conifer in the canopy.
Cable Sealing End (CSE)	A termination assembly used at the end of a high-voltage cable to provide a transition point between substations, overhead lines, or electrical equipment, ensuring safe and reliable operation.
Chartered Institute of Ecology and Environmental Management (CIEEM)	A professional body for ecologists and environmental managers, promoting high standards and best practices in the conservation and management of natural environments.
Class 1 Peatland	Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value.
Class 2 Peatland	Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential.
Commercial Forestry	Plantation woodlands typically dominated by conifer species and managed predominantly for timber extraction.
Conductor	A metallic wire strung from structure to structure, to carry electric current.
Coniferous Woodland	Woodland that has 10% or less broadleaved trees in the canopy.

Term	Definition
Construction Environmental Management Plan (CEMP)	A site-specific environmental management plan setting out the environmental management procedures, legislation and requirements for a particular project and site.
Construction Noise Impact Assessment (CNIA)	Construction Noise Impact Assessment. The basic principle of any noise impact assessment is to assess the change in the acoustic environment that will be brought about by the Proposed Development. The assessment of construction noise complies with best practice (BS5228), Code of Practice for Noise and Vibration Control on Construction and Open Sites.
Construction Noise Management Plan (CNMP)	A site-specific noise management plan that demonstrates competence and commitment to controlling noise pollution. Developed in line with best practice (BS5228-1) by the Principal Contractor prior to starting construction works.
Consultation	The dynamic process of dialogue between individuals or groups, based on a genuine exchange of views, normally, with the objective of influencing decisions, policies or programmes of action.
Contaminated Land	Land contaminated by harmful substances including Unexploded Ordnance.
Control of Woodland Removal Policy (CoWRP)	A policy in the UK that regulates the removal of woodland to ensure that any deforestation is justified, and compensatory measures are taken to maintain environmental balance and biodiversity.
Construction Traffic Management Plan (CTMP)	A site-specific traffic management plan that outlines how traffic will be managed during construction projects, aiming to minimize disruption, ensure safety, and manage vehicle movement to and from the site.
Corridor	A linear area which allows a continuous connection between defined connection points. The corridor may vary in width along its length; in unconstrained areas it may be many kilometres wide.
Drinking Water Protected Areas (DWPA)	The water in ditches, streams, lochs and possibly groundwater in these areas is protected and likely to be taken to water treatment works, where it is treated and provided to the public as drinking water.
Effect	The change in condition of an environmental receptor (beneficial or adverse) arising as a result of a change brought about by the construction or operation of the Proposed Development.
Energy Consents Unit (ECU)	The department of the Scottish Government responsible for processing applications for consent under the Electricity Act 1989 on behalf of Scottish Ministers.
Embedded Mitigation	Measures to avoid or reduce environmental impacts which are developed as an inherent part of the design of a project (e.g. reducing the height of a tower) or from adoption of specific design parameters (e.g. compliance with specific buffer distance from an environmental receptor).

Term	Definition
Environmental Impact Assessment (EIA)	A formal process codified by EU directive 2011/92/EU and subsequently amended by Directive 2014/52/EU. The national regulations are set out in The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The EIA process is set out in Regulation 4(1) of the regulations and includes the preparation of an EIA Report by the developer to systematically identify, predict, assess and report on the likely significant environmental impacts of a proposed project or development.
EIA Regulations	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.
European Commission (EC) Habitats Directive	A European Union law designed to protect natural habitats and wild species across Europe, establishing the network of Special Areas of Conservation (SACs) and requiring member states to conserve biodiversity through measures that maintain or restore habitats and species to favourable conservation status.
European Designated Site	An area of land subject to protection through European legislation, including Special Areas of Conservation (SAC) and Special Protection Areas (SPA).
European Protected Species (EPS)	Species of plants and animals (other than birds) protected by law throughout the European Union.
Forestry and Land Scotland (FLS)	Forestry and Land Scotland is the Scottish Government agency responsible for managing Scotland's national forests and land.
Gardens and Designed Landscapes (GDLs)	The Inventory of Gardens and Designed Landscapes lists those gardens or designed landscapes which are considered by a panel of experts to be of national importance.
General Environmental Management Plan (GEMP)	A series of standardised construction environmental management plans produced by SSEN Transmission which are issued to their Contractors and contain best practice mitigation which is to be incorporated into the Contractor's site works as applicable.
Guidelines for Landscape and Visual Impact Assessment 3 (GLVIA3)	A set of guidelines used in the UK to assess the potential effects of development projects on landscapes and visual amenity, providing a standardized method for evaluating impacts and informing decision-making.
Gigawatt (GW)	One billion watts.
Ground Water Dependent Terrestrial Ecosystem (GWDTE)	Wetlands which critically depend on groundwater flows. They are safeguarded by the Water Framework Directive (WFD) and are sensitive to hydrological and ecological changes.

Term	Definition
Habitat	Term most accurately meaning the place in which a species lives, but also used to describe plant communities or agglomerations of plant communities.
Habitats Regulations Appraisal (HRA)	Appraisal to determine whether the Proposed Development will give rise to Likely Significant Effects on European designated sites in line with the Conservation (Natural Habitats, &c.) Regulations 1994.
Historic Environment Record (HER)	Sources of, and signposts to, information relating to landscapes, buildings, monuments, sites, places, areas and archaeological finds spanning more than 700,000 years. Based in mainly local authorities, they are used for planning and development control but also fulfil an educational role.
Historic Environment Scotland (HES)	Organisation responsible for investigating, caring for and promoting Scotland's historic environment.
Heavy Goods Vehicle (HGV)	A large vehicle designed for transporting large goods, typically weighing over 3.5 tons, including trucks and lorries used for commercial transportation.
Impact	Physical constructions or activities that may change or disturb the surrounding environment (e.g. erection of an OHL tower may impact the landscape resource).
Indicative Proposed Alignment	The alignment identified within the proposed route, selected to be taken forward into the EIA and consenting process. It comprises a defined centre line for the overhead line and defined angle tower support structure locations.
Kilometre (km)	Unit of length in the metric system, equal to 1000 metres.
Kilovolt (kV)	One thousand volts.
Landscape Character Type (LCT)	A distinct, recognisable and consistent pattern of elements in a landscape that differentiate the area from another.
Landscape and Visual Impact Assessment (LVIA)	A chapter within the EIA Report to systematically identify, predict, assess and report on the likely significant landscape and visual impacts of a proposed project or development.
Limit of Deviation (LOD)	The area either side of the proposed alignment within which micrositing of structures may take place in accordance with the conditions of the Section 37 consent.
Listed Building	Building included on the list of buildings of special architectural or historic interest and afforded statutory protection under the 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997' and other planning legislation. Classified categories A – C(s).

Term	Definition
Local Nature Reserve	Areas of natural heritage that are locally important.
Megawatt (MW)	One million watts
Micrositing	The process of positioning individual structures to avoid localised environmental or technical constraints.
Mitigation	Term used to indicate avoidance, remediation or reduction of adverse impacts.
National Nature Reserve (NNR)	Areas of natural heritage that are nationally important.
National Scenic Area (NSA)	A national level designation applied to those landscapes considered to be of outstanding scenic value in a national context.
Native Woodland	Woodland recorded on the Native Woodland Survey of Scotland (NWSS). The NWSS identified and mapped the location, extent, type and condition of all of Scotland's native woodlands. Launched in 2014, it was the first authoritative inventory of Scotland's native woods and created a baseline for future monitoring of change.
NatureScot	Scotland's statutory nature conservation agency (formerly Scottish Natural Heritage (SNH)).
Noise Sensitive Receptors (NSR)	Noise sensitive receptors are defined as receptors which are potentially sensitive to noise and vibration. Examples include dwellings, hospitals, schools and community facilities.
Operational Corridor (OC)	The area either side of the OHL which needs to remain clear of trees.
Ordnance Survey (OS)	Great Britain's national mapping agency.
Overhead Line (OHL)	An electric line installed above ground, usually supported by lattice steel towers or poles.
Plantation Woodland	Woodland of any age that obviously originated from planting.
Private Water Supply (PWS)	Water supply that is not provided by a public water system, typically sourced from private wells, springs, or boreholes, and is used for domestic or agricultural purposes.
Proposed Development	The Proposed Development refers to a new single circuit 132 kV overhead transmission line connecting the proposed Carn Fearna Wind Farm to the proposed extension at the existing Corriemoillie Substation. It includes details of the location, physical characteristics of the OHL, alignment, support structure schedule, access arrangements, and associated construction activities. It also covers the main features

Term	Definition
	of the operational development and estimates of residues and emissions during both construction and operation, as per Schedule 4 of the EIA Regulations.
Ramsar	A wetland site designated to be of international importance under the Ramsar Convention.
Route	A linear area of approximately 1 km width (although this may be narrower/wider in specific locations in response to identified pinch points / constraints), which provides a continuous connection between defined connection points.
Routeing	The work undertaken which leads to the selection of a proposed alignment, capable of being taken forward into the consenting process under Section 37 of the Electricity Act 1989.
Royal Society for the Protection of Birds (RSPB)	The RSPB is a non-statutory body incorporated by Royal Charter and registered as a charity since 1968. The RSPB works to protect and restore the natural world for birds and other wildlife.
Scoping Opinion	An opinion adopted by the Scottish Ministers as to the scope and level of detail of information to be provided in the EIAR.
Scottish Biodiversity List (SBL)	The Scottish Biodiversity List is a list of species and habitats of particular importance for the conservation of biodiversity in Scotland.
Scottish Environment Protection Agency (SEPA)	Scotland's principal environmental regulator, protecting and improving Scotland's environment.
Schedule Monument	A monument which has been scheduled by the Scottish Ministers as being of national importance under the terms of the 'Ancient Monuments and Archaeological Areas Act 1979'.
Section 37 Application	An application for development consent under Section 37 of the Electricity Act 1989.
Semi-natural Woodland	Woodland that does not obviously originate from planting. The distribution of species will generally reflect the variations in the site and the soil. Planted trees must account for less than 30% of the canopy composition.
Sites of Special Scientific Interest (SSSI)	Areas of national importance. The aim of the SSSI network is to maintain an adequate representation of all natural and semi-natural habitats and native species across Britain.
Span	The section of overhead line between two supporting structures.

Term	Definition
Special Area of Conservation (SAC)	An area designated under the EC Habitats Directive to ensure that rare, endangered or vulnerable habitats or species of community interest are either maintained at or restored to a favourable conservation status.
Special Landscape Area (SLA)	Regionally valuable landscapes identified by a local planning authority (The Highland Council) to protect and enhance landscape qualities and promote their enjoyment.
Special Protection Area (SPA)	An area designated under the Wild Birds Directive (Directive 74/409/EEC) to protect important bird habitats.
Species Protection Plan (SPP)	Developed by the Applicant and contractually applied to construction works to document specific procedures, legislation and requirements for ensuring protection to a variety of species.
SSEN Transmission	Scottish Hydro Electric Transmission plc is a wholly owned subsidiary of the SSE plc group of companies. Operating and known as Scottish and Southern Electricity Networks Transmission (SSEN Transmission) it owns and maintains the electricity transmission network across the north of Scotland and remote islands. It holds a licence under the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.
Substation	A node on the network to allow safe control of the electricity network. This could include convergence of multiple circuits, transformation of voltage or other functions to maintain and operate the electricity network.
The National Grid	The electricity transmission network in Great Britain.
The Highland Council (THC)	The local government authority responsible for the administration and services in the Highland region of Scotland, overseeing areas such as education, planning, transport, and community services.
UK Habitat Survey (UKHab)	The UK Habitat Classification is a unified and comprehensive approach to classifying habitats, designed to provide a simple and robust approach to survey and monitoring for the 21st Century.
Underground Cable (UGC)	An electric cable installed below ground, protected by insulating layers and marked closer to the surface to prevent accidental damage through later earthworks.
Unexploded Ordinance (UXO)	Explosive weapons, such as bombs, shells, or mines, that did not detonate as intended and remain hazardous, posing a risk to safety and the environment.
Volts	The international unit of electric potential and electromotive force.
Vantage Point (VP) surveys	Observational studies conducted from specific locations that provide a clear view of an area, typically used in environmental assessments to monitor wildlife activity.

Term	Definition
Water Framework Directive (WFD)	Legislation aimed at protecting and improving the quality of water resources, ensuring sustainable water management, and achieving 'good status' for all water bodies by 2027.
Wayleave	A voluntary agreement entered into between SSEN Transmission and a landowner upon whose land an overhead line is to be constructed for the installation and retention of the transmission equipment.
Wild Land Area (WLA)	A series of 42 mapped areas which have been identified by NatureScot as comprising the most extensive areas of high wildness within Scotland, following a process of interpretive mapping and site survey. WLA is not a statutory designation, but these areas are considered to be nationally important.
Zone of Theoretical Visibility (ZTV)	A computer-generated map showing where an object can theoretically be seen from within the landscape.

EXECUTIVE SUMMARY

Scottish Hydro Electric Transmission plc, operating and known as Scottish and Southern Electricity Networks Transmission (SSEN Transmission), is proposing to submit an application under Section 37 of the Electricity Act 1989 for consent to construct and operate a new single circuit 132 kilovolt (kV) overhead line (OHL) to connect the proposed Carn Fearna Wind Farm to the wider electricity network. The Proposed Development is approximately 7.5 kilometres (km) in length, consisting of trident wooden 'H' poles supporting the OHL, a sealing end terminal structure (Cable Sealing End (CSE)) to connect the proposed OHL to associated infrastructure, and ancillary works required for construction and operational access.

Applications under Section 37 of the Electricity Act 1989 ("the 1989 Act") are subject to the requirements of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. SSEN Transmission also requests that Scottish Ministers provide a direction that planning permission for ancillary works is deemed to be granted under Section 57(2) of the Town and Country Planning (Scotland) Act 1997.

SSEN Transmission has a statutory duty under Schedule 9 of the 1989 Act to connect the proposed Carn Fearna Wind Farm to the transmission network by the contracted connection date of June 2030.

This Environmental Impact Assessment (EIA) Scoping Report is provided to support a formal request under Regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 for a Scoping Opinion to determine the information to be provided within an EIA Report (EIAR). The purpose of this EIA Scoping Report is to ensure that the subsequent EIA is proportionate and focused on the key impacts likely to give rise to significant adverse effects, and to obtain agreement on the EIA approach and scope from the Energy Consents Unit (ECU) and Statutory Consultees. As well as identifying aspects to be considered in the EIAR, this document also identifies those aspects that are not considered necessary to assess further. **Table** 0.1 lists each topic proposed to be scoped in and out from further assessment, with further discussion and justification for doing so provided in this EIA Scoping Report.

Table 0.1 Topics for further assessment

Topic	Scoped In	Scoped Out
Landscape Character and Visual Impact	✓	
Ecology and Nature Conservation	✓	
Ornithology	✓	
Forestry	✓	
Cultural Heritage	✓	
Hydrology, Hydrogeology, Geology, and Soils	✓	
Noise and Vibration		✓
Land Use and Amenity	✓	
Climate Change and Carbon Balance	✓	
Traffic and Transport		✓
Population and Social Health		✓
Socio-Economics and Tourism		✓

1. INTRODUCTION

1.1 The Proposals

SSEN Transmission, operating under the license held by Scottish Hydro Electric Transmission plc, is the electricity transmission license holder in the north of Scotland. SSEN Transmission has a duty under Section 9 of the Electricity Act 1989 ("the 1989 Act") to develop and maintain an efficient and coordinated electricity transmission system and to facilitate competition in electricity generation and supply. Additionally, SSEN Transmission must offer non-discriminatory connection terms for new generation and sources of electricity demand.

The proposed Carn Fearna Wind Farm is an 85 megawatt (MW) onshore wind farm[1] located approximately 1.9 kilometres (km) northwest of Garve, to the east of Loch Luichart in the northwest Highlands. The proposed wind farm comprises up to nine wind turbines and associated infrastructure. SSEN Transmission has a statutory duty under Schedule 9 of the Electricity Act 1989 to connect the proposed wind farm to the transmission network by the contracted connection date of June 2030.

As part of these duties, SSEN Transmission is proposing to construct and operate a new connection between the proposed Carn Fearna Wind Farm to a proposed extension at the existing Corriemoillie 132 kV Substation. The project is referred to as the Carn Fearna Wind Farm Connection and hereafter as the "Proposed Development".

The Proposed Development consists of approximately 7.5 km of 132 kV single circuit OHL supported by trident wooden 'H' poles and a Cable Sealing End (CSE). The proposed OHL would commence at the proposed CSE compound (approximate grid reference: NH 41745 62266) and terminate at a proposed extension to the existing Corriemoillie 132 kV substation (approximate grid reference: NH 34786 63877).

The following Associated Works are required to facilitate connection of the OHL but do not form part of the Proposed Development for the purposes of a s37 application:

- Approximately 3 km of underground cable (UGC) will be required between the proposed Carn Fearna Wind Farm and the proposed CSE. The UGC would fall under SSEN Transmission's permitted development rights in accordance with Class 40 (1) (a) of The Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (as amended) and is therefore not part of the Proposed Development, however, will be considered within the cumulative impact assessment in **Section 3.5**; and
- An extension to the existing Corriemoillie 132 kV substation is required to facilitate the connection of the proposed Carn Fearna Wind Farm. These works are not part of the Proposed Development and will be progressed through a separate consenting process, in accordance with the provisions of the Town and Country Planning (Scotland) Act 1997.

Applications under Section 37 of the 1989 Act are subject to the requirements of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, hereafter referred to as 'the EIA Regulations'.

The Proposed Development is classified as Schedule 2 development under the EIA Regulations by virtue of it being classed as:

> *"The carrying out of development (other than development which is Schedule 1 development) to provide any of the following -*
>
> *(2) an electric line installed above ground –*

[1] Energy Consents Unit (2024) Carn Fearna Wind Farm Application Details [online] Available at: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00004851 [Accessed: March 2025]

(a) with a voltage of 132 kilovolts or more"

A Screening Opinion was sought from Scottish Ministers as consenting authority under regulation 8(1) of the EIA Regulations to determine whether the Section 37 application for the Proposed Development would constitute 'EIA Development'. The Screening Request was submitted on 17th December 2024. A Screening Opinion was received on 12th March 2025 (ECU00006060), noting that a full Environmental Impact Assessment (EIA) Report would be required. The Screening Opinion is included as **Appendix A.**

1.2 Purpose of the EIA Scoping Report

The EIA Scoping Report aims to ensure that the subsequent EIA is focused on the key impacts likely to give rise to significant adverse effects. The report identifies relevant environmental issues and confirms that the assessment process will meet legislative requirements.

In accordance with the EIA Regulations, this EIA Scoping Report contains:

- A plan sufficient to identify the site which is the subject of the Proposed Development;
- A brief description of the nature and purpose of the Proposed Development and its possible effects on the environment; and
- Such other information or representations as the person making the request may wish to provide or make.

This EIA Scoping Report has been issued to the Scottish Government Energy Consents Unit (ECU) to inform the preparation of a Scoping Opinion.

SSEN Transmission invites consultees to comment on the following:

What environmental information do you hold or are aware of that will assist in the EIA described here?

- Do you agree with the proposed approach for baseline collection, prediction and significance assessment?
- Are there any key issues or possible effects which have been omitted?
- Do you agree with the list of issues to be scoped out, and the rationale behind the decision?
- Of those issues identified for assessment, which do you consider the most important / material and which the least?

1.3 Scoping Report Methodology

This report presents an initial appraisal of the likely environmental effects of the Proposed Development. It provides an overview of baseline conditions and potential impacts. Where necessary, further site surveys and assessments will be undertaken. Environmental topics for initial assessment include:

- Landscape and Visual Impact Assessment;
- Ecology;
- Ornithology;
- Forestry;
- Cultural Heritage;
- Traffic and Transport;
- Hydrology, Hydrogeology and Soils;
- Noise and Vibration;
- Land Use and Amenity;
- Population and Human Health;
- Climate Change and Carbon Balance; and

- Socio-Economics and Tourism.

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Introduction

This chapter describes the elements that constitute the Proposed Development. It provides a description of the key components and information regarding the construction, operation and maintenance of the Proposed Development.

2.2 Proposed Development

SSEN Transmission is proposing to submit an application for consent under Section 37 of the 1989 Act (including deemed consent under section 57(2) of the Town and Country Planning (Scotland) Act 1997 where required) to construct and operate a new single circuit 132 kV OHL between the proposed CSE (approximate grid reference: NH 41745 62266) and the existing Corriemoillie 132 kV substation (approximate grid reference: NH 34786 63877), to provide a grid connection for the proposed Carn Fearna Wind Farm.

The Proposed Development, known as the 'Carn Fearna Wind Farm Connection', is illustrated on a site layout plan (**Figure 2.1**).

Section 37 consent under the 1989 Act, including deemed planning permission under section 57(2) of the Town and Country Planning (Scotland) Act 1997 (as amended) is being sought for the following:

- The installation and operation of approximately 7.5 km of new trident wood 'H' pole single circuit 132 kV OHL. The typical height of the trident poles would be 10 to 18 m, with an average span of between 75 - 100 m.
- A new CSE required to facilitate the transition between the proposed OHL and UGC section.
- Ancillary works required to facilitate the construction and operation of the Proposed Development, including tree felling and vegetation clearance, temporary measures to protect road and water crossings, upgrades to existing access tracks and existing access points, new permanent and temporary access routes, permanent hardstanding areas related to the CSE, and associated working areas around infrastructure to facilitate construction.

2.3 Limit of Deviation

The Limit of Deviation (LOD) refers to the area on either side of the alignment within which the micrositing of structures may occur. Following consent, sub-surface and geotechnical investigations at proposed pole locations will be conducted, which may result in adjustments to pole locations or heights. The consent application will be based on a proposed alignment and detailed pole schedule, with an agreed horizontal LOD providing flexibility for the final siting of individual poles and access tracks, allowing a variation of up to 100 m from the proposed pole locations and 50 m from the centre line of access tracks. Additionally, pole heights may vary from the proposed schedule, with a vertical LOD allowing up to a 20% variation.

The EIA will assess the proposed alignment, associated access tracks, and LOD. Any application of the LOD will be limited to variations that do not significantly alter the environmental effects outlined in the EIAR. If such variations could lead to adverse effects, consultation with the ECU and relevant statutory consultees will be undertaken for approval.

Ancillary works will include access establishment for construction and maintenance, such as tree and vegetation clearance and the upgrading or creation of new access tracks. When defining the LOD, the following principles were considered:

- A preference for the optimum LOD while allowing flexibility during the detailed design phase;
- A focus on avoiding sensitive environmental features; and
- A focus on avoiding residential properties.

The vertical LOD, indicating the maximum pole height of 18 m, will be finalised through the EIA process as more detailed design information is obtained. A vertical LOD is anticipated generally, subject to specific pole types and locations, and will be assessed as part of the Landscape and Visual Impact Assessment (LVIA).

2.4 Overhead Line Design

The final design and spacing of the OHL support structures will depend on key factors such as altitude, weather conditions, and topography. In areas of higher altitudes, where the effects of high winds, ice, and severe weather are more pronounced, poles may be placed closer together to ensure stability. The configuration, height, and spacing of the poles will be fully determined after a detailed alignment survey and design.

2.4.1 Trident 'H' Wood Pole Supports

The Proposed Development includes a single-circuit 132 kV OHL supported by trident 'H' wood poles, as shown in **Figure 2.2** below. The typical height of these poles will range from 10 to 18 m, with span lengths between 75 and 100 m, depending on topography, altitude, and land use. The OHL will consist of suspension poles, angle/tension poles, failure containment poles, and a CSE Compound.

The low-profile trident 'H' wood poles will support three conductors in a horizontal flat formation. To connect the OHL to the UGC, a CSE Compound is proposed and described further in **Section 2.4.3.** Approximately 92 trident wood pole structures are anticipated for construction. Detailed information on pole locations, heights, span lengths, and types of poles is provided in **Appendix B**.

Figure 2.2 Trident 'H' Wood Pole Example

2.4.2 Conductors and Span Length

Poles will carry a single circuit with three conductors supported from either glass, porcelain, or composite insulators, attached to the horizontal cross arms of each wood pole. An ADSS will be strung approximately 3 m below the cross arm.

The span length (distance between poles) will vary depending on altitude, topography, and land usage. The average span length ranges between 75 m to 85 m.

2.4.3 Cable Sealing End Compound

One CSE will be required, which connects the OHL to the UGC section.

The CSE Compound will be approximately 40 m x 40 m and will be securely fenced. A typical CSE Compound is shown in **Figure** 2.**3** below:

Figure 2.3 Typical Cable Sealing End Compound

2.5 Construction Programme

It is anticipated that construction of the Proposed Development would take place over an 18 to 22 months period, following the granting of consents, although detailed programming of works would be the responsibility of the Principal Contractor in agreement with SSEN Transmission. The programme for the project is currently under development, an indicative programme is as follows:

- Construction Start: July 2028; and
- Operation: June 2030.

2.5.1 General Environmental Management Plans (GEMPs)

GEMPs have been developed by SSEN Transmission. The GEMPs relevant for this project are identified below and are provided in **Appendix C**.

- Soil Management;
- Waste Management;
- Watercourse Crossings;
- Working in or Near Water;
- Private Water Supplies;
- Forestry;
- Bad Weather;
- Working in Sensitive Habitats; and
- Oil Storage and Refuelling.

2.5.2 Species Protection Plans (SPPs)

SPPs have been developed by SSEN Transmission in agreement with NatureScot. The SPPs relevant for this project are identified below and are provided in **Appendix D**.

- Birds Species Protection Plan;
- Badger Species Protection Plan;
- Bat Species Protection Plan;
- Pine Martin Species Plan;
- Otter Species Protection Plan;

- Red Squirrel Species Protection Plan;
- Water Vole Species Protection Plan; and
- Wildcat Species Protection Plan.

2.6 Construction Practices and Phasing

2.6.1 Phase 1 - Enabling works

Road improvements and Access

The access strategy, including typical junctions and access proposals, will be outlined in the EIAR and Section 37 consent application. These details will be further refined during the design phase outlined in **Figure 2.1**. Existing access tracks will be upgraded where possible, and new tracks may be needed. Tracks with a clear long-term need will need to remain in place, while in areas with suitable ground conditions (e.g. dry, level pasture), infrastructure may need to be constructed without dedicated access tracks.

Most access will need to be achieved by upgrading existing tracks and installing new temporary ones in sensitive areas, depending on gradients and ground conditions to minimise environmental impact. For new access tracks, a geotextile will typically need to be laid down, followed by around 200 mm of crushed and compacted stone. In areas with peat, floating stone tracks, trackway panel construction or cut-and-fill methods may need to be employed. For temporary access, trackway panels may be installed in sensitive areas such as over peat.

Forestry Removal

The Proposed Development will need to pass through or close to areas of woodland and commercial forestry, as discussed in **Chapter 7: Forestry**. Construction of the Proposed Development will need to require the removal of sections of commercial forest, which will be undertaken in consultation with Scottish Forestry and affected landowners. After felling, any timber removed that is commercially viable will need to be sold and the remaining forest material will be dealt with in a way that delivers the best practicable environmental outcome and is compliant with waste regulations.

Where the Proposed Development passes through areas of woodland or forestry, an operational corridor will need to be required. The width of this corridor will vary depending on the nature of the adjacent woodland or forestry.

Existing Distribution Lines

Works would be required to some existing electricity distribution network infrastructure to facilitate safe working and operating conditions given the proximity of the existing OHLs to the proposed OHL. It is anticipated that some of these network assets may be realigned or partially undergrounded in some locations to make way for the Proposed Development. Specific details are not available at this stage, but it is anticipated that any works would be carried out under Permitted Development rights. For electricity distribution infrastructure these works do not form part of the Proposed Development but are included here as ‘associated works’ for the purposes of the EIA with the potential for cumulative effects assessed as part of the EIA.

Temporary Site Compounds

It is currently anticipated that a single main construction compound will be required, the location of which will be confirmed by the Principal Contractor. Temporary construction compound locations may be required along the LOD, the location of which will be determined through ongoing design works.

2.6.2 Phase 2 – Construction works

OHL:

- Excavation of suitable areas for pole foundations, with backfilling completed the same day to avoid open excavations overnight;
- Use of imported hardcore for stability in areas with poor natural subsoil compaction;
- Removal or breaking of shallow bedrock in certain pole locations to accommodate foundations;
- Addition of 'bog shoes' to foundations in soft ground or deep peat areas to improve stability;
- Installation of conductors on poles using full tension stringing to prevent ground contact; and
- Remedial works to reinstate disturbed areas using excavated material.

Conductor Stringing:

The conductor would be delivered to site on wooden drums in pre-determined pulling section lengths. Prior to stringing the conductors, temporary protection measures (e.g. netted scaffolds), would be required across public roads and existing access tracks. Conductor stringing equipment (i.e. winches, tensioners and ancillary equipment) are set out at either end of pre-selected sections of the OHL. Pilot wires would be pulled through the section to be strung. These would be hung on blocks (wheels) at each suspension Pole and connected to a winch and tensioner at the respective end of the section. The winch, in conjunction with the tensioner, is used to pull the pilot wires between the structures. The conductor is pulled via the pilot wires through the section under tension to avoid contact with the ground and any underrunning obstacles. Once the conductor has been strung between the ends of the section it is then tensioned and permanently clamped at each pole.

2.6.3 Phase 3 - Commissioning

Following construction, the OHL will then be subject to an inspection and snagging process. This allows the Contractor and SSEN Transmission to check that the works have been built to specification and are fit to energise. The Proposed Development will also go through a commissioning procedure for the switchgear, communications and protection controls through the proposed Carn Fearna Wind Farm Substation and the proposed extension at the existing Corriemoillie Substation. The circuits will then be energised from the substations.

2.6.4 Phase 4 - Reinstatement

Following commissioning of the Proposed Development, all construction sites will be reinstated. Reinstatement will form part of the contract obligations for the Principal Contractor and will include the removal of all temporary access tracks, all work sites around the pole locations and the re-vegetation of all construction compounds etc.

The following will guide the approach to reinstating all sites:

Best practices, as outlined in the technical chapters, will be followed during the reinstatement of all sites; and

The specific principles for reinstatement are detailed in the Restoration GEMP (refer to **Appendix C**).

Reinstatement of Pole Sites

Any topsoil displaced will be stored within the working area for each structure during construction. Sub-soils removed to enable the construction (where required) will be temporarily stockpiled in separate bunds within the working area.

Following appropriate reinstatement of soils, each site will be allowed to re-vegetate naturally wherever possible, although some seeding may be required to stabilise sites.

Topsoil will be stored within the working area for each pole during construction. Sub-soils removed to enable the installation of poles will be temporarily stockpiled in separate bunds within the working area.

Each site will be allowed to re-vegetate naturally wherever possible.

Reinstatement of Construction Compound(s)

Construction compound site(s) will be made good at the end of construction with all buildings and materials removed and soils appropriately reinstated naturally, as described above.

2.7 Construction Employment and Hours of Work

SSEN Transmission takes community responsibilities seriously. The delivery of a major programme of capital investment provides the opportunity to maximise support of local communities. Employment of construction staff will be the responsibility of the Principal Contractor, but SSEN Transmission encourages the Principal Contractor to make use of suitable labour and resources from areas local to the location of the works.

Construction working is likely to be during daytime periods only. Working hours are currently anticipated between approximately 07.00 to 19.00 in summer and 07.30 to 17.00 (or within daylight hours) in winter Monday to Saturday. Any out of hours working would be agreed in advance with The Highland Council.

2.8 Construction Traffic

Construction will involve regular staff transport movements, with small work crews traveling to various site areas. The Principal Contractor is expected to identify a single main compound with a designated parking area away from the public highway. Vehicle movements will be required for constructing new or upgraded access roads, delivering foundation and tower components, transporting conductor materials, and moving construction plant and materials between the main site compound and individual tower locations. The EIAR will summarise the anticipated traffic movements, broken down by phases, and a Construction Traffic Management Plan (CTMP) will be developed to ensure safe vehicle movements for both the project and the public, as discussed in **Chapter 13: Traffic and Transport**.

2.9 Operation and Management of the Transmission Connection

Life of the Proposed Development

In general, given the nature of the Proposed Development, there would be a negligible or no demand for energy, materials or natural resources during the operational life of the OHL. Regular inspections are undertaken to identify any unacceptable deterioration of components, so that they can be replaced. From time to time, inclement weather, storms or lightning can cause damage to either the insulators or the conductors. If conductors are damaged, short sections may have to be replaced. Insulators and conductors are normally replaced after about 40 years. Wood poles may require occasional treatment with preservatives to prevent decay.

Maintenance Programme

In addition to the removal of vegetation to facilitate construction, it will be necessary to manage all vegetation along either side of the OHL throughout operation, to maintain required safety clearance distances. The vegetation clearance required will be dependent on the height of the vegetation adjacent to the OHL and on the surrounding topography. Vegetation clearance may be required where the vegetation height has the potential to impede the operational corridor, or the topography is steeply sloping.

Residues and Emissions

Table 2.1 provides a summary of the anticipated residues and emissions for the purpose of informing the scope of the EIA.

Table 2.1 Residues and Emissions from the Proposed Development

Topic	Potential residue/emission
Water	Construction: Surface water runoff and discharge is likely during construction. Pollution sources may arise as a result of soil erosion or from oil / fuel or chemical storage and use. Operation: No water emissions or pollution sources have been identified for the operational phase.
Air	Construction: The construction phase would require the transport of people and materials by road and air, with associated emissions to the atmosphere. There are no air quality management areas within the vicinity of the Proposed Development. No significant air emissions are anticipated. Operation: Due to the nature of the Proposed Development no significant point source or diffuse air emissions would be produced during its operation. The Proposed Development would contribute to connecting renewable electricity generation capacity to the transmission network, in turn displacing emissions associated with fossil fuel-based electricity generation elsewhere.
Soil and Subsoil	Construction: Soil and subsoil excavation, handling and storage will be required during construction. All soil and subsoil would be stored temporarily for use in reinstatement. Operation: No requirement for soil or subsoil excavation or handling during the operation phase has been identified. No pollution sources have been identified for the operational phase.
Noise and vibration	Construction: Possible effects associated with construction and operation of the Proposed Development include noise during the construction phase and noise due to construction traffic.
Light	Construction: The temporary construction compounds will be equipped with lighting installations for use during low light conditions and passive infra-red sensor-controlled security lighting. Any effect would be temporary and not expected to be significant. Operation: No light sources have been identified during normal operation of the Proposed Development.

Topic	Potential residue/emission
Heat, radiation and Electromagnetic Fields (EMF)	Construction: No heat or radiation sources have been identified during the construction phase. There will be no significant EMFs generated during construction. Operation: No significant sources of heat or radiation will be generated during operation of the OHL. EMFs are emitted from OHLs, with potential effects on human health. However, given the proposed voltage (132 kV) of the line and the likely distance from residential and commercial premises no significant effects are anticipated in respect to EMFs during operation.
Waste	Construction: The construction stage will require felling of woodland. As such, it is anticipated that forestry related residues (brash) would result from the felling operations. It would be intended to use the non-marketable forest residues to enhance the soil and support the establishment of woodland. Operation: Limited waste may arise from operation and maintenance in the form of brash from vegetation maintenance or replacement of faulty / damaged equipment e.g. conductor sections. All waste will be disposed of at the time it arises and in line with current legislation and best practice.

3. METHODOLOGY

3.1 Introduction

This chapter outlines the approach for completing the EIA of the Proposed Development, referencing legal requirements, best practice, and the assessment of parameters. The EIAR will include the information specified in Part I (where relevant) and Part II of Schedule 4 of the EIA Regulations and will be prepared in accordance with these regulations. The approach to the assessment will be informed by current best practice guidance.

The EIAR will include introductory chapters that provide:

- A description of the Proposed Development, covering the location of the OHL, its physical characteristics (including conductor selection, voltage, and pole suite), the area of land required during construction and operation, the main characteristics of the operational phase, and the type and quantity of expected residues and emissions during both phases.
- A description of the reasonable alternatives considered, including OHL alignment selection, technology (conductor selection, voltage, pole suite), and the reasons for the chosen option, with a comparison of environmental effects and how the development incorporates 'mitigation by design.'

A detailed overview of the guidance and methodology adopted for each technical study is provided in the respective technical chapters of this EIA Scoping Report (**Chapters 4 - 15**).

3.2 Identification of Baseline

To identify the scale of likely significant effects as a result of the Proposed Development, it is necessary to establish the existing baseline environmental conditions.

The baseline scenario will be established through the following methods, where relevant:

- Site visits and surveys;
- Desk-based studies;
- Review of existing information;
- Modelling;
- Review of relevant national and local planning policies;
- Consultation with the relevant statutory consultees; and
- Identification of sensitive receptors.

Consistent with Part 1 of Schedule 4 of the EIA Regulations an identification of the aspects of the environment likely to be significantly affected by the Proposed Development has been undertaken to inform this EIA Scoping Report. In particular; this focused on potential impacts upon population, fauna, flora, soil, hydrology, material assets including the architectural and archaeological heritage, landscape and inter-relationship between those factors.

3.3 Assessment of Likely Significant Environmental Effects

For the purposes of this EIAR the terms used in the assessment of effects are generally defined as follows:

Impact: is specific and defined as the action being taken, for example, cutting down trees.

Effect: is defined as the change resulting from that action.

Where a more appropriate effect duration scale or definition of the above terms is applicable to a technical discipline this will be clearly outlined within the technical chapters.

When identifying likely significant effects, all types of effect, such as beneficial and adverse, will be included. As stated in IEMA 'Guidelines for Landscape and Visual Impact Assessment 3 (GLVIA3)[2], '*identifying significant*

[2] Landscape Institute (2024) GLVIA3 Panel [online] Available at: https://www.landscapeinstitute.org/technical/glvia3-panel/ [Accessed: February 2025]

effects stresses the need for an approach that is in proportion to the scale of the project that is being assessed and the nature of its likely effects. Judgement needs to be exercised at all stages in terms of the scale of the investigation that is appropriate and proportional.'

The result of the assessment is the determination of whether the likely effect of the Proposed Development on the receptor area surrounding the alignment would be significant or not significant, and adverse or beneficial.

Several criteria have been used to determine whether or not the likely environmental effects of the Proposed Development will be deemed 'significant'. The effects have been assessed quantitatively where possible. Generally, the significance of effects has been assessed using one or more of the following criteria:

- International, national and local standards;
- Sensitivity of receiving environment;
- Extent and magnitude of the effect; and
- Reversibility and duration of the effect.

Where no published standards exist, the assessments presented in the technical chapters will describe the professional judgements (assumptions and value systems) that underpin the attribution of significance. For certain technical topics, such as ecology, widely recognised published significance criteria and associated terminology have been applied and these are presented in the technical chapters and associated appendices where relevant.

The assessment of significance will consider the magnitude of change (from the baseline conditions), the sensitivity of the affected environment / receptors and (in terms of determining residual effects) the extent to which mitigation and enhancement will reduce or reverse adverse effects. In addition, further influences such as those listed below have been factored into the assessment using professional judgement:

- Likelihood of occurrence;
- Geographical extent;
- The value of the affected resource;
- Adherence of the proposals to legislation and planning policy; and
- Reversibility and duration of the effect.

The magnitude (scale) of change for each effect will be identified and predicted as a deviation from the established baseline conditions, for the construction and operational phases of the Proposed Development.

The sensitivity of the receptor / receiving environment to change will be determined using professional judgement, consideration of existing designations (such as Sites of Special Scientific Interest (SSSIs)) and quantifiable data, where possible.

Each effect will be assessed taking account of the predicted magnitude of change and the sensitivity of the receptor as shown in **Table** 3.1 below to determine an overall significance.

Table 3.1 Matrix for Determining the Significance of Effects

		Sensitivity of Receptor / Receiving Environment to Change / Effect			
		High	**Medium**	**Low**	**Negligible**
Magnitude of Change / Effect	**High**	**Major**	**Major**	**Moderate**	Negligible
	Medium	**Major**	**Moderate**	Minor	Negligible
	Low	**Moderate**	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Major and moderate effects are considered to be significant in the context of the EIA Regulations. Minor and negligible effects are not considered significant.

Specific criteria have been adopted for certain technical assessments in accordance with widely recognised EIA guidelines published by professional bodies (such as for landscape and visual impact assessment and the assessment of ecological effects), where applicable, these will be provided in the respective technical chapters.

The characteristics of an effect will vary depending on the duration of the activity causing the effect, the sensitivity of the receptor and the resultant change. It is therefore necessary to assess whether the effect is temporary or permanent and beneficial or adverse. Effects that are temporary are usually reversible and generally confined to the construction period.

3.4 Identification of Mitigation Measures

Following the initial assessment, mitigation measures will be recommended to prevent, reduce or remedy any significant adverse environmental effects identified. Such measures would be implemented during design, construction and / or operation of the Proposed Development. Each technical chapter will detail the measures recommended to mitigate any identified significant adverse effects, and a summary of the recommended mitigation measures will be provided.

Following the implementation of mitigation measures, an assessment of the significance of any residual effects will be undertaken. The findings will be presented in each technical chapter of the EIAR.

3.5 Cumulative Effects

There are two aspects to cumulative effects, defined as follows:

- In-combination effects: The combined effect of the Proposed Development together with other reasonably foreseeable developments (taking into consideration effects at the site preparation and earthworks, construction and operational phases); and
- Effects Interactions: The combined or synergistic effects caused by the combination of a number of effects on a particular receptor (taking into consideration effects at the site preparation and earthworks, construction and operational phases), which may collectively cause a more significant effect than individually. A theoretical example is the culmination of disturbance from dust, noise, vibration, artificial light, human presence and visual intrusion on sensitive fauna (e.g. certain bat species) adjacent to a construction site.

The potential for cumulative effects will be considered in relation to other approved EIA development within 10 km of the Proposed Development relevant to each particular issue. The basis for this is that only these developments have the potential to result in significant cumulative effects in combination with those arising from the Proposed Development. The final list of development to be considered in the cumulative effects assessment will be frozen one month prior to publication to allow sufficient time to compile the EIAR.

The following committed development proposals will be considered, where appropriate, in assessing the effects of the Proposed Development. These are shown in **Table 3.2** and are illustrated in **Figure 3.1**.

Table 3.2 Details of Developments for Consideration in Cumulative Assessment

Reference Number and Name	Development Description	Phase	Distance from Alignment
Carn Fearna Wind Farm Connection	SSEN Transmission 132 kV underground cable (UGC) with associated infrastructure and ancillary works.	Permitted Development	Immediately adjacent to the Proposed Development and connecting to the proposed Carn Fearna Wind Farm.
Corriemoillie Substation Extension	Extension of the existing substation platform to facilitate the grid connection of the proposed Carn Fearna Wind Farm.	Town and Country Planning, EIA Screening request	Immediately adjacent to the Proposed Development.
12/00278/S37: Beauly to Mossford 132 kV transmission overhead line	132 kV transmission overhead line replacement (from tower 3 to tower 97) and associated groundworks	Operational	Runs 0.4 km south of the OHL section of the proposed alignment and connects at the Corriemoillie Substation
ECU00005155: Corriemoillie Battery Storage	Construction and operation of a Battery Energy Storage System along with associated infrastructure and ancillary works, earthworks, access, drainage, cable route, landscaping, and biodiversity enhancements.	In planning	5 m northeast
05/01052/S36RC: Lochluichart Wind Farm	Construct and operate a 22 Turbine, 66 MW Wind Farm and Associated Access Tracks/Services	Operational	1.6 km northwest
ECU00005262: Corriemoillie Wind Farm	Erection of 19 wind turbines - increase in generating capacity from 47.5 MW to 60.8 MW.	Operational	1.7 km north
ECU00006008: Spittal to Loch Buidhe to Beauly 400 kV OHL Connection	Construct and operate a new 400 kV OHL over a distance of approximately 167 km, between new proposed substations at Spittal, Loch Buidhe and Beauly.	Scoping request	2.4 km southeast
ECU00001800: Kirkan Wind Farm	Wind farm comprising 17 turbines with a hub height of up to 104 m and a maximum height to blade tip of not more than 175 m, with an anticipated installed capacity of 81.6 MW, and associated infrastructure.	EIA consenting	2.8 km northeast
ECU00005126: Tarvie Wind Farm	Construct and operate up to eleven wind turbines with a maximum height of up to 200 m, with a total generating capacity of up to 77 MW. There will also be a battery energy storage system (BESS) of up to 30 MW included.	EIA consenting	3.5 km southwest

Reference Number and Name	Development Description	Phase	Distance from Alignment
21/02985/FUL: Lochluichart Extension II Wind Farm	Erection and operation of a Wind Farm for a period of 40 years, comprising of 5 wind turbines with a maximum blade tip height 149.9 m, access tracks, borrow pits, substation, control building, and ancillary infrastructure.	EIA consenting	4.8 km north
ECU00004732: Abhainn Dubh Wind Farm	Erection and operation of a wind farm for a period of 30 years, comprising of nine wind turbines with a maximum tip height of up to 149.9 m and an indicative capacity of 40.5 MW, co-located with one energy storage facility of 30 MW and associated ancillary infrastructure.	Scoping request	10 km northeast

3.6 Assumptions and Limitations

The key assumptions and limitations applied to the preparation of this EIA Scoping Report are set out below. Assumptions and limitations specific to certain topics are identified in the appropriate technical chapter.

- Baseline conditions have been established from a variety of sources, including historical data, but due to the dynamic nature of certain aspects of the environment, conditions may change during the construction and operation of the scheme;
- Information received by third parties is complete and up to date;
- The design, construction and completed stages of the Proposed Development will satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge; and
- Construction methods have been assumed based on similar projects SSEN Transmission have undertaken, however, specific methods will not be determined until appointment of the Principal Contractor.

4. LANDSCAPE CHARACTER AND VISUAL IMPACT

4.1 Introduction

This chapter outlines the scope and approach of the Landscape and Visual Impact Assessment (LVIA) to the Proposed Development. The LVIA will be undertaken by a suitably qualified individual or organisation and will identify and assess the likely significant effects resulting from the Proposed Development on Landscape and Visual receptors directly affected by the Proposed Development and those within the wider study area. The LVIA will be carried out in accordance with Guidelines for Landscape Visual Impact Assessment (GLVIA)[3].

This chapter:

- Provides a brief description of the Proposed Development;
- Sets out the Legislation, Policy and Guidance to be adopted in the undertaking of the LVIA;
- Sets out the study area that has been adopted as part of this scoping exercise;
- Describes the baseline landscape and visual receptors within the study area; and
- Identifies landscape and visual receptors anticipated to be scoped in and scoped out of the LVIA.

4.2 Proposed Development

The Proposed Development is described in detail in **Chapter 2: Description of the Proposed Development**. The elements of relevance to the LVIA are:

- 132 kV OHL trident 'H' pole arrangement, approximately 7.5 km in length at a height of 10 – 18 m;
- Spans of 75 – 100 m between poles;
- CSE Compound at the eastern end of the Proposed Development; and
- Upgrades to existing tracks and potential new permanent tracks.

4.3 Legislation, Policy and Guidance

The legalisation of relevance to the LVIA is the European Landscape Convention (ELC)[4]. The LVIA will be a development specific process which accords with Article 6C of the ELC. The LVIA will be informed by extant landscape character assessment studies, which more directly relate to the provisions of Article 6C.

Planning policy relevant to the LVIA will be identified and discussed as part of the LVIA reporting but is likely to include:

- National Planning Framework 4 (NPF 4)[5]; and
- Highland-Wide Local Development Plan[6].
- The primary guidance of relevance to the LVIA is:
- Landscape Institute, Guidelines for Landscape and Visual Assessment, Third Edition (2013)[3]; and
- Landscape Institute, TGN 06/19, Visualisation Representation of Development Proposals[7].

4.4 Proposed Study Area

For the purposes of this Scoping Report a preliminary 4 km wide study area centred on the proposed alignment has been adopted. The extent of the study area has been informed by desk study and professional judgement

[3] Landscape Institute. (2013) *Guidelines for Landscape and Visual Impact, Third Edition:* Available at: https://www.landscapeinstitute.org/technical/glvia3-panel/ [Accessed: February 2025]

[4] The Council of Europe (2004) European Landscape Convention, updated 2016. Available at: https:rm.coe.int/1680080621/ [Accessed: March 2025]

[5] Scottish Government (2024) National Planning Framework 4. Available: https://www.gov.scot/publications/national-planning-framework/ [Accessed: March 2025]

[6] Highland Council (2012) Highland-wide Local Development Plan. Available at: https://www.highland.gov.uk/info/178/development_plans/199/highland-wide_local_development_plan [Accessed: March 2025]

[7] Landscape Institute (2019) TGN 06/19 Visual Representation of development proposals. Available at: https://www.landscapeinstitute.org/visualisations/ [Accessed: March 2025]

and defined on the basis that beyond 4 km, significant effects on landscape and visual receptors are unlikely to result from the Proposed Development.

As part of the undertaking of the LVIA, the study area will be re-examined and confirmed following desk study, fieldwork, and the preparation zone of theoretical visibility mapping. Where appropriate, the study area will be reduced or extended in order to reflect the potential for significant adverse effects on landscape and visual receptors.

4.5 Baseline Conditions

4.5.1 The Site and Surroundings

The Proposed Development commencing from the proposed extension at the existing Corriemoillie substation heads east just north of the A832 on the southern slopes of Creagan an Eich Ghlais. The land cover is predominately forestry land with an area of pasture land north of Corriemoillie. The OHL heads north east at Gorstan broadly parallel to the A835 minor road before crossing the minor road and heading east and up the western slopes of Tom na Caillich. The land west of the A835 minor road is predominately forestry land, with open moorland to the east of the A835 minor road. The OHL ends approximately 500 m to the north west of Beinn a Ghuilbein.

In the wider study area to the north of the OHL is hilly terrain with lots of small round hills ranging between 300 m to 479 m AOD in height. The land cover is forestry on the lower slopes becoming moorland on the slopes and summits of the hills. There are a number of water courses throughout with a series of loch's such as Loch Bad Leabhraidh to the north being the largest in the study area.

To the east of the OHL in the wider study area are a series of larger hills and mountains ranging from 400 m – 763 m, with Little Wyvis being the tallest. The landcover is predominately moorland with patches of forest such as Strathgarve Forest.

To the south of the OHL is the A832, with a railway line beyond. Further south is Loch Luichart with a series of hills beyond to the south ranging from 490 m to 580 m in height with Sgurr Marcasaidh being the tallest. The landcover is predominately moorland, with forestry immediately south and dotted trees and moorland along the A832.

To the west of the OHL in the wider study area are a series of hills ranging from 384 m AOD to 513 m, with Meallan a Mhuthaidh Mor being the highest, the land is predominately moorland with patches of forestry around the A832. There are a number of watercourses following the topography with Loch Nam Fiadh approximately 3 km to the west of the OHL. The Lochluichart Wind Farm is located approximately 2.5 km to the north west of the OHL.

The area is sparsely populated, the largest settlement being Gorstan and Garve to the south east. There are existing OHLs to the south of the corridor, and other electricity infrastructure such as the existing Corriemoillie substation in the west and two power stations to the west and Lochluichart Wind Farm 2.5 km to the north west.

The main transport links are the A832 to the south, with a A835 minor road which crosses the Proposed Development in the east. There are smaller lanes which serve the various properties and farms in the study area.

The Core paths of Silverbridge Circuit and Tor Breac are both south of the proposed OHL line and both approximately 0.4 km from the OHL. Further to the south east is the Kinelian to Strathgarve Core path and Village river path approximately 2 km at the closest point to the Proposed Development.

The Ben Wyvis SLA is located approximately 500 m east of the OHL section and the Rhiddoroch – Beinn Dearg – Ben Wyvis WLA is approximately 1.1 m east of the OHL and the Fisherfield-Lettrewe-Fannichs WLA is approximately 4 km to the west.

4.5.2 Landscape and Related Designations

The LVIA will identify and assess the nature and extent of effects on nationally and regionally designated landscapes within the study area. The Proposed Development would not pass through any NSAs, SLAs or WLAs however there are a number of designated landscapes which fall within the wider study area, these are listed in **Table** 4.1.

Table 4.1 Landscape Designations

Landscape Designations	Name	Description
National Scenic Areas	N/A	None within the study area
Special Landscape Area	Ben Wyvis (SLA – 17)	500 m east of the Proposed Development
Wild Land Area	Rhiddoroch - Beinn Dearg - Ben Wyvis	1.3 km to the east of the Proposed Development
	Fisherfield - Letterewe - Fannichs	4 km to the west of the Proposed Development

4.6 Landscape Character

The LVIA will use the NatureScot Scottish Landscape Character Types Map and Descriptions (LCTs)[8].

The alignment lies within the following LCTs:

- 329 – Rounded Mountain Massif;
- 330 – The Rounded Hills and Moorland Slopes – Ross & Cromarty;
- 331 – The Rounded Rocky Hills; and
- 340 – Strath – Ross & Cromarty.

A detailed description of each of these can be found in **Table 4.2**.

The LVIA will use the NatureScot Scottish Landscape Character Types Map and Descriptions[9].

The LVIA will draw from the Landscapes of Scotland database and identify the defining features and key characteristics of relevant LCTs.

[8] NatureScot (2019) Scottish Landscape Character Types Map and Descriptions [online] Available at: https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions [Accessed: March 2025]
[9] NatureScot (2019) Scottish Landscape Character Types Map and Descriptions [online] Available at: https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions [Accessed: March 2025]

Table 4.2 NatureScot Landscape Character Types

Landscape Character Type	Description
329 - The Rounded Mountain Massif	• High, broad, smooth-sided, lobed mountains in discrete groups, sweeping down to lower hills, high-level straths, and U-shaped valleys, creating a sense of grandeur; • Well-defined summits with rounded or angular profiles, often sculpted by glacial activity into corries and cliffs; • Similar height to the Rugged Mountain Massif – Ross & Cromarty, but appear lower due to their landform; • Fresh snowlines reveal the true height of the mountains; • Rugged, stony summits and extensive moorland cover; • Strong relationship with adjoining Rounded Hills and Moorland Slopes – Ross & Cromarty, unifying the mountain groups into a vast landscape; • Limited settlement, few footpaths or structures, and little evidence of historic or current land use; • Far-reaching views from the upper reaches to mountains, plains, and firths in adjacent areas; • Vast landscape with simple mountain profiles, sweeping horizons, undifferentiated ground cover, and few man-made structures; and • Wild character across much of the area.
330 - The Rounded Hills and Moorland Slopes – Ross & Cromarty	• Broad, rounded hills and upland moorlands with gentle slopes leading to broad straths, creating an undulating skyline; • Extends across a large area, linking the Rounded Mountain Massif and Rugged Mountain Massif in Ross & Cromarty; • Predominantly uniform moorland with occasional rivers, lochs, riparian woodland, and regenerating trees; • Large coniferous forests on accessible lower slopes; • Broad straths with meandering rivers, occasionally featuring green, unenclosed pastures and riparian trees; • Major trunk roads curve through the lowest straths, with minimal service development; • Small groups of traditional buildings at road junctions and rail stations; • Man-made features like pylons, wind farms, and reservoirs appear occasionally in this expansive landscape; • Numerous archaeological sites on lower ground, from prehistoric to medieval and later periods; and • Large, remote interior areas with a strong sense of wildness.
331 - The Rounded Rocky Hills	• Moderate-scale, well-defined hills with rounded, domed profiles, steep sides, and rocky moorland texture; • Hills separated by low, curving glens, lochs, and straths; • Exposed glaciated rock at higher levels, with perched lochans, bogs, and burns; • Lower levels feature a mosaic of heather, rough grassland, broad-leaved woodland, regenerating trees, and coniferous forests;

Landscape Character Type	Description
	• Rocky landforms and moorland contrast with sheltered wooded glens and smoother moorlands; • Low-intensity land use and limited access, contrasting with adjacent farmed plains and straths; • Extensive views of surrounding plains, firths, and mountains from higher ground; • Occasional masts and pylons blend with rocky landforms and vegetation; and • Wild character in the remote south-west area with few built structures.
340 – Strath – Ross & Cromarty	• Sinuous, curved channels with steep sides, flowing through upland and mountainous landscapes; • Wide, flat strath floors at the coast or water bodies, where water is the dominant feature; • Narrowing channels inland, rising strath floors, terminating at narrow glens or mountain passes; • Meandering rivers, broadening and braiding at the lower end, leading to wetlands and pebbly beaches; • Abrupt topographical change from strath to slope, with a shift from regular fields to forest, woodland, and moorland; • Riparian and native woodlands along strath floors and lower slopes; • Limited settlement, typically at inland bridging points at strath entrances; • Rural estate landscapes with green, regular pastures, large estate houses, and associated features like farm buildings and policy woodlands; • Occasional small crofting townships and holdings on slopes near roads; • Through-roads along the strath floor edge; • Evidence of historic land use in abandoned 19th and early 20th century settlements; • Restricted views in upper reaches, channelled along the strath, contrasting with the openness of the lower strath, enhanced by sea or loch reflections; and • Intriguing views along curved straths, especially on un-improved roads following the landform.

4.7 Visual Amenity

The assessment of effects on visual amenity will consider the changes to views and visual amenity experienced by people within the study area and focus on receptors likely to be significantly impacted by the Proposed Development. Potential visual receptors include people living, working and passing through the study area (via road, rail or other forms of transport), those engaged in recreational activities and those visiting promoted landscapes or attractions.

4.8 Zone of Theoretical Visibility (ZTV)

A ZTV will be produced to demonstrate the theoretical likely visibility of the Proposed Development, this will be checked through field study and desk-based analysis. The ZTV will inform the likely visual receptors and potential effects. The ZTV will also inform the study area as set out above.

4.9 Visual Receptors

The assessment of impacts upon visual amenity will consider the changes to views and visual amenity experienced by people within the study area and focus on receptors likely to be significantly impacted by the Proposed Development. Potential visual receptors include people living, working and passing through the study area (via road, rail or other forms of transport), those engaged in recreational activities and those visiting promoted landscapes or attractions.

4.9.1 Residential Receptors

Potential residential receptors will include residents in smaller settlements and those in individual farmsteads and properties throughout the study area.

Residential receptors will be confirmed within the LVIA following the preparation of visibility mapping, further desk study and fieldwork.

4.9.2 Transport Receptors

Transport receptors will include users of the local and trunk road network in addition to those using the railway network. They may include users of the A832, A835, Killin Road and Matherson Road. Transport receptors may also include users of the Far North Railway Line.

Transport receptors will be confirmed within the LVIA following the preparation of visibility mapping, further desk study and fieldwork.

4.9.3 Recreational Receptors

The study area encompasses a wide range of popular tourist and recreational attractions. These include:

Users of the heritage and core path network;

Recreational users of Forestry Land and Scotland open access land within the study area; and

Tourist attractions including historic monuments and areas with visitor car parking.

4.10 Provisional Viewpoints

The assessment will be supported by representative viewpoints illustrating views from key receptors from publicly accessible locations around the Proposed Development. The viewpoint locations will be agreed with key consultees including The Highland Council, a provisional list of viewpoint locations is provided in **Table** 4.3 and **Figure 4.1**.

Viewpoint photography will be undertaken in accordance with best practice guidance and standards. The final viewpoint locations will be microsited during the field visit to avoid foreground obstructions towards the Proposed Development.

Table 4.3 List of Provisional Viewpoints

No.	Viewpoint	Rationale	Approximate Grid Reference
1.	Tor Braec and Silverbridge Circuit (car park west of Cattle Grid)	Users of the Core Path	NH 40140 63985
2.	Village River Path (by Matherson road)	Users of the Core Path	NH 39741 61363
3.	Kinellan to Strathgarve (towards Rogie in the east)	Users of the Core Path	NH 44254 59301
4.	Glas Leathad Mor	Recreational visitors to Ben Wyvis SLA	NH 46302 68376

4.11 Issues Scoped Out

4.11.1 Landscape Receptors

The assessment of effects associated with the operational phase of the Proposed Development will focus on the new elements of permanent infrastructure that would be introduced within the study area, comprising poles along the OHL alignment, a CSE Compound and associated tracks. It is anticipated that the influence of sporadic maintenance activities and associated site traffic would be minimal, as the Proposed Development will not be permanently manned. Significant effects on the key characteristics of LCTs and Special Qualities of designated landscapes beyond the 4 km study area are not anticipated, as at this distance the perceptibility of changes would be minimal. Effects on LCTs beyond 4 km will therefore not be considered.

Night-time working is not anticipated and there is no permanent lighting associated with the poles. There are therefore no anticipated impacts from light pollution as a result of the Proposed Development and night-time landscape effects will not be assessed.

4.11.2 Visual Receptors

Significant effects on visual receptors beyond the 4 km study area are not anticipated, as at this distance the perceptibility of changes would be minimal. Effects on visual receptors beyond 4 km will therefore not be considered as part of the LVIA.

Night-time working is not anticipated and there is no permanent lighting associated with the poles. There are therefore no anticipated impacts from light pollution as a result of the Proposed Development and night-time visual effects will therefore not be assessed as part of the LVIA.

Effects upon footpaths and core paths that cross through the Site would be scoped out of construction impacts on the basis they would be closed during the construction period.

4.11.3 Cumulative Assessment

The LVIA will focus on cumulative impacts from similar forms of development within 4 km of the Proposed Development. The cumulative assessment will include proposals that are at planning application stage, appeal, or consented but not yet constructed. Those still at pre-app or scoping stage will be scoped out, on the basis on the uncertainty and lack of information on the form these proposals will take.

4.12 Potential Significant Effects

4.12.1 Construction

The LVIA will consider potential effects resulting from the construction phase, the assessment will focus on the peak activity for the worst-case scenario. The likely landscape and visual impacts arising from construction are identified as:

- Temporary access roads;
- Temporary construction compounds;
- Plant and vehicles associated with construction;
- Storage and laydown areas; and
- Loss of vegetation.

4.12.2 Operation

The LVIA will consider the effects resulting from the operation of the Proposed Development on landscape and visual receptors, this primarily will be associated with the following:

- Direct effects on landscape pattern through the temporary or permanent loss or alteration of landscape components such as field pattern, mature trees and landform which could lead to residual effects;
- Direct and indirect effects on landscape character through a change to existing land uses;
- Direct effects on landscape features and elements resulting in the loss of such features;
- Direct and/or indirect effects on the special qualities and defining features of designated landscapes;
- Changes to visual amenity resulting from the loss of existing landscape features; and
- Potential effects of localised landscape enhancements as part of the mitigation scheme, such as reinforcement/reinstatement of woodland belts and an increase in overall vegetation cover.

4.12.3 Mitigation

The LVIA will identify potential mitigation measures during construction and operation where possible to reduce or avoid adverse significant effects.

The alignment selection process for the Proposed Development has enabled consideration of likely significant landscape and visual effects to be integral to the evolution of the project to date. Through the EIA process, the LVIA will seek to inform any further refinements to the Proposed Development and consider where other landscape mitigation measures may be utilised to minimise potential landscape and visual effects.

The implementation of a successful restoration plan will also be important to ensure long term effects of construction access are minimised.

The mitigation of potential landscape and visual effects has been approached through the alignment assessment and will continue to inform the siting and design of the proposed alignments. The LVIA will inform modifications and refinements to the detailed design of the Proposed Development including consideration of individual pole locations during the design and assessment process, and the identification of any further appropriate mitigation measures to reduce potential residual effects.

4.13 Assessment Methodology

4.13.1 General

The landscape and visual assessments will be completed in accordance with the Guidelines for Landscape and Visual Impact Assessment[10]. The LVIA will also take account of advice within the following documents:

- Assessing the Cumulative Impact of Onshore Wind Energy Developments NatureScot (2021)[11];
- Technical Guidance Note 02/19: Residential Visual Amenity Assessment (RVAA), The Landscape Institute (2019)[12];
- The Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines (with National Grid Company plc (NGC) 1992 and Scottish Hydro-Electric Transmission plc (SHETL) 2003 Notes)[13];
- Landscape Sensitivity Assessment - Guidance for Scotland (Consultation Draft) [14];
- Landscape Character Assessment: Guidance for England and Scotland; Prepared on behalf of the Countryside Agency and Scottish Natural Heritage[15]; and
- Visualisation Standards for Wind Energy Developments, The Highland Council
- A separate methodology for production of ZTV, visualisations and RVAA if required will accompany the LVIA and prepared in accordance with relevance guidance. This will be appended to the LVIA.
- The LVIA will establish the following:
- A clear understanding of the study area and it's setting in respect of landscape character and visual amenity;
- The potential effects of the Proposed Development upon landscape character; and
- The potential effects of the Proposed Development upon visual amenity of people including where required sequential effects along the alignment.

4.13.2 Approach to Assessment

The LVIA that will be undertaken will involve a combination of desktop study and field surveys (including photography), with subsequent analysis and assessment, summarised below:

Establishing the Landscape and Visual Baseline:

- A review of relevant published background data (including Ordinance Survey mapping and historic mapping, aerial photography, published Landscape Character Assessments, studies and relevant supporting evidence base documents);
- Field surveys of the study area and surrounding area and inspection of publicly accessible views with consideration of private views for groups of properties and broad locations based upon the nearest available public location alongside professional judgement. Representative photographs will be taken

[10] Landscape Institute and IEMA (2013) Guidelines for Landscape and Visual Impact Assessment 3rd Edition [online] Available at: https://www.landscapeinstitute.org/technical/glvia3-panel/ [Accessed: December 2024]
[11] NatureScot (2021) Assessing the cumulative landscape and visual impact of onshore wind energy developments. Available at: https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments [Accessed: March 2025]
[12] Landscape Institute (2019) TGN 02/19 Residential Visual Amenity Assessment. Available at: https://www.landscapeinstitute.org/technical-resource/rvaa/ [Accessed: March 2025]
[13] National Grid PLC and Scottish Hydro-Electric Transmission (1992) The Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines. Available at: https://www.ssen-transmission.co.uk/globalassets/documents/dunoon/section-37-planning-application-volume-4---technical--appendices/appendix-2.1-the-holford-rules.pdf [Accessed: March 2025]
[14] NatureScot (2022) Landscape Sensitivity Assessment Guidance [online] Available at: https://www.nature.scot/doc/landscape-sensitivity-assessment-guidance-methodology#:~:text=1.%20%EE%80%80Landscape%20Sensitivity%20Assessments%EE%80%81%20are [Accessed: December 2024]
[15] Natural England (2002) Landscape Character Assessment Guidance for England and Scotland [online] Available at: https://publications.naturalengland.org.uk/publication/2671754 [Accessed: December 2024]

during field work and will be presented in the LVIA in accordance with current best practice guidance from the Landscape Institute;

- Evaluation of the features and components of the landscape and their contribution to the landscape character, context and setting, based on the above desktop study and field work;
- Evaluation of the potential area in which the development may be visible, considering people (visual receptors) who may experience views, viewpoints and the nature of views based upon the above desktop study and field work;
- The landscape and visual baseline will be based upon the study area as it is at the time the LVIA is undertaken but, where appropriate, considering committed development and / or development allocations not yet implemented, including a cumulative assessment and reported in the EIA; and
- Design: input into the ongoing design of the Proposed Development as part of an iterative assessment and design process, reviewing initial design proposals and considering and advising upon mitigation options to avoid, reduce, or offset adverse landscape and visual effects and maximise opportunities for landscape integration and enhancement.

Assessment of landscape effects:

- Identification of the components of the landscape that are likely to be affected by the Proposed Development (landscape receptors), such as overall character and where appropriate any key characteristics, individual elements or features, and specific aesthetic or perceptual aspects;
- Review the design proposals and mitigation measures proposed to avoid, reduce or offset significant adverse effects; and
- Analysis and consideration of the potential landscape and visual effects of the Proposed Development.

Effects of landscape receptors:

- Determine the sensitivity of the landscape to the changes likely to arise from the development, combining judgements about:
    - The value attached to the landscape receptor; and
    - The susceptibility of the landscape receptor to the type of change arising.
- Assessment of the magnitude of effect, made up of judgements about:
    - The size and scale of the effect;
    - The geographical extent of the area that will be affected; and
    - The duration of the effect and its reversibility.
- Assessment of the significance of the effect on the landscape, (taking into consideration the sensitivity of the receptor and the magnitude of effect) during construction, at winter day 1 and summer year 15 to determine which effects are significant in EIA terms.

Assessment of visual effects:

- Identification of the visual receptors (people) likely to experience changes to views and visual effects of the Proposed Development;
- Assessment of the sensitivity of visual receptors to the changes likely to arise from the development, combining judgements about:
    - The value attached to views; and
    - The susceptibility of the visual receptor to the type of change arising.
- Review the design proposals and mitigation measures proposed to avoid, reduce or offset significant adverse effects;
- Assessment of the magnitude of effect, made up of judgements about:

- The size and scale of the effect;
- The geographical extent of the area that will be affected; and
- The duration of the effect and its reversibility.

- Assessment of the significance of visual effects (taking into consideration the sensitivity of the receptor and the magnitude of effect) during Construction, at winter day 1, and summer year 15 to determine which effects are significant in EIA terms.

In accordance with the EIA Regulations, it is essential to determine whether the predicted effects are likely to be 'significant'. In this instant, significant landscape and visual effects resulting from the Proposed Development are typically those effects that result in a 'major', a 'moderate – major', or 'moderate' effect, for each a judgement will be made to state whether significant or not significant with supporting narrative where required.

Table 4.4 Matrix for Determining the Significance of Effects Sensitivity

		Sensitivity			
		High	**Medium**	**Low**	**Negligible**
Magnitude of Change	**High**	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Minor	Negligible
	Negligible	Minor	Negligible	Negligible	Negligible
	None	None	None	None	None

4.13.3 Visualisations

The assessment of effects on landscape and visual receptors will be supported by the preparation of visualisations. The visualisations will be prepared to illustrate the existing views from viewpoints agreed with key consultees and in an agreed format.

Viewpoints selected for inclusion in the assessment will be either:

- A representative view, selected to represent the experience of different types of visual receptor;
- A specific view chosen because they are key and sometimes promoted viewpoints in the landscape such as the view experienced at a specific visual attraction or a viewpoint of noteworthy visual value; and,
- An illustrative view selected to demonstrate a particular effect or specific issue, for example restricted visibility at a key location.

Each viewpoint will include baseline photography and wireline visualisations. A selection of key viewpoints within the study area to each section of Proposed Development will be illustrated with photomontage visualisations to provide a photo-realistic illustration of the change in views.

Consultation will confirm the need for viewpoint photography capturing seasonal changes in views and vegetation.

4.13.4 Assumptions and Limitations

All field work will be undertaken from publicly accessible locations.

Assessment of effects on residential receptors will be undertaken using professional judgement and supported by viewpoints near or of similar view to that from residential properties aided by the ZTV's, aerial photography and LVIA figures.

It is assumed all current vegetation (excluding any removed for construction / operation of the Proposed Scheme) within the Proposed Development boundary and outside such as field boundaries would be maintained as the baseline condition for the lifespan of the Proposed Development.

Any proposed mitigation planting would be subject to a long-term management and maintenance regime for the lifespan of the Proposed Development.

Unless noted otherwise in the assessment, the year 1 effects reported exclude any allowance for mitigation by planting unless advance planting has been carried but will include allowance for screening measures such as soil bunds, fencing and / or walling as appropriate.

The assessment will assume the worst-case development with the maximum heights and massing as set out in the Proposed Development description. The routing set for scoping may evolve and the LVIA will be reviewed and amendment to the scope and study area where required.

Additional key assumptions or limitations that are made during the assessment will be set out in the body of the LVIA.

It is assumed that public footpaths that cross the study area will be temporarily closed during the construction phase and will therefore be scoped out of the construction assessment.

Decommissioning effects are scoped out of the assessment.

4.14 Summary

The LVIA of the Proposed Development will be conducted in accordance with best practice guidance and examine the potential impacts of the Proposed Development on Landscape and Visual Receptors. In this regard, the LVIA will be prepared in line with the guidance provided for the Landscape and Visual Impact Assessment prepared by the Landscape Institute and supported by visibility mapping and visualisations.

The study area and scope of the assessment (including agreed viewpoints) will be agreed with key consultees and be proportionate to the likely extent of significant and adverse impacts but in the first instance it is proposed that it shall extend to a distance of 4 km from the alignment of the Proposed Development in all directions.

The assessment will consider effects during both the construction and operational phases of the Proposed Development on both landscape and visual receptors. The assessment will not consider effects on landscape and visual receptors beyond 4 km from the alignment and will not consider night-time landscape and visual effects.

5. ECOLOGY AND NATURE CONSERVATION

5.1 Introduction

This scoping chapter describes the potential effects of the Proposed Development on designated sites, habitats and species along the proposed alignment and within the wider local area. Evaluation of the existing baseline environment will be made through a combination of desk-based study, field surveys and consultation.

This Chapter:

- Presents the proposed survey methods that will be used to generate ecological baseline information;
- Outlines the proposed approach to the ecological impact assessments (as part of the wider EIA); and
- Describes the key ecological issues associated with construction and operation of the Proposed Development.

5.2 Baseline Conditions

5.2.1 Baseline data collection

A combination of desk-based studies and field surveys will be used to characterise the baseline ecological conditions for the EIAR.

Desk-based study

A desk-based study has been undertaken to inform this scoping chapter and future ecological surveys. The data from this desk-based study and from surveys will be used to inform an Ecological Impact Assessment (EcIA) which will be included as a chapter of the EIAR.

The desk-based study has used publicly available data sources including (but not limited to) NatureScot Sitelink[16], Scotland's Environment Webmap[17], Ordnance Survey and aerial mapping, to identify the likelihood of designated sites, habitats and species being impacted by the Proposed Development.

Designated sites

Designated sites included within the desk study are:

- Special Areas of Conservation (SAC), and Ramsar sites up to 2 km from the Proposed Development.
- Sites subject to a national statutory designation (Sites of Special Scientific Interest (SSSI)) up to 2 km from the Proposed Development
- National / local nature reserves (non-statutory) up to 2 km from the Proposed Development.

Sites with solely ornithological designations have not been included in this chapter as they are covered within **Chapter 6: Ornithology**, likewise any site designated for geological features have been excluded from this chapter and can be found within the **Chapter 9: Hydrology, Hydrogeology, Geology and Soils**.

Ancient Woodland Inventory

Data from the Ancient Woodland Inventory (AWI), the Native Woodland Survey of Scotland (NWSS), and the Scotland Land Cover Map 2022[18] were mapped using publicly available data allowing for the identification of woodlands and other habitat types located within 2 km of the Proposed Development.

[16] NatureScot (2024) SiteLink Website [online] Available at: https://sitelink.nature.scot/ [Accessed: February 2025]
[17] Scottish Environment Web (2025) SEWeb Map, [online] Available at: https://map.environment.gov.scot/sewebmap/ [Accessed: February 2025]
[18] Scotland Land Cover Map 2022, NatureScot [online] Available at: https://www.data.gov.uk/dataset/fb20f816-d3cb-433b-9cd5-0e0b8eea7367/scotland-habitat-and-land-cover-map-2022 [accessed February 2025]

Protected species and habitats

The NBN Atlas open-source data[19] set was used to find records of protected and priority species within 2 km of the Proposed Development. Further to this data purchased from Highland Biological recording Group (HBRG) and open-source species-specific sites such as Saving Scotland's Red Squirrels[20] were reviewed.

Field surveys

Appropriate ecological field surveys will be undertaken in respect of the Proposed Development, where the Proposed Development encompasses a single proposed alignment plus ancillary infrastructure such as permanent / temporary access tracks. An appropriate buffer will be applied to this depending on the survey type as detailed below.

Protected species survey

A protected species survey of the Proposed Development will be undertaken to inform the baseline on which the EcIA will be founded. Protected species are those that are deemed 'sensitive' and especially vulnerable to persecution or over-exploitation and are protected under legislation such as the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)[21], Wildlife and Countryside Act 1981[22] and Protection of Badgers Act 1992[23]. Other notable species of priority, such as those included on the Scottish Biodiversity List (SBL) which are of particular importance for the conservation of biodiversity in Scotland, and those included on the Highland Nature Biodiversity Action Plan (HBAP), will also be recorded where identified.

Evidence of protected species including the animals themselves, their places of shelter and other field signs such as footprints, faeces and feeding signs will be searched for up to 30 m from the LoD of the Proposed Development, where the LoD is assumed to be 100 m either side of the proposed alignment and 50 m either side of proposed access tracks. During detailed design, the size of the LoD may increase or decrease due to engineering constraints. Inclusion of the LoD plus a 30 m buffer within the survey area will ensure baseline data is available should infrastructure require to be moved, and in the worst-case scenario, should infrastructure be moved to the edge of the LoD data will be available within the potential disturbance zone. Where associated infrastructure is located outside of these areas, e.g. compounds and borrow pits, their footprint will be subject to survey plus a 30 m buffer. Species searched for will include those noted as present or potentially present through the desk-based study findings or species likely to be present due to their known UK distribution and the presence of suitable habitat.

In the case of watercourses and any watercourse crossings, the search area will be expanded to 200 m from the LoD to identify any otter (*Lutra lutra*) places of shelter.

Due to the proximity of the Proposed Development to the Wildcat Protection Area, the search area will be expanded to 200 m from the LoD to identify any evidence of wild cat (*Felis silvestris*) activity.

Where appropriate, further species-specific surveys may be considered as a necessary follow on, in specific locations and based on the results of preceding protected species (and habitat) surveys, e.g. protected species shelter monitoring to determine likelihood of breeding, where a risk of disturbance may be considered likely.

Where species specific surveys are deemed necessary, the specific survey methodology employed will be detailed within the EIAR and will be in keeping with published good practice guidance.

[19] NBN Atlas (2025) NBN Atlas Website [online] Available at: https://records.nbnatlas.org/ [Accessed: February 2025]

[20] Scottish Squirrels (2025) Scottish Squirrels Sightings [online] Available at: https://scottishsquirrels.org.uk/ [Accessed: February 2025].

[21] UK Government Legislation (1994) The Conservation (Natural Habitats, &c.) Regulations 1994 [online] Available at: https://www.legislation.gov.uk/ukpga/1981/69/contents [Accessed: March 2025]

[22] UK Government Legislation (1981) Wildlife and Countryside Act 1981 [online] Available at: https://www.legislation.gov.uk/ukpga/1981/69/contents [Accessed: March 2025]

[23] UK Government Legislation (1992) Protection of Badgers Act 1992 [online] Available at: https://www.legislation.gov.uk/ukpga/1992/51/contents [Accessed: March 2025]

Bats

It is proposed that a high-level habitat classification approach to bat roosting/foraging and commuting potential is taken. This would identify areas of woodland or groups of trees likely to require felling (within the LoD) and classify them based on their general age and condition, then inferring their likelihood of hosting bat roosts. Assessment of the potential for bat roosts in the habitats will be made based on ground observations throughout the study area. Should any buildings (or other suitable habitat features) be identified for demolition as part of the Proposed Development or be located within 30 m of the LoD, then these would be assessed for their potential to support roosting bats. All bat habitat assessment and classification will be undertaken in line with Bat Conservation Trust (BCT) guidance[24].

Where available, management felling areas will be considered as part of the design, surveyed and assessed as such.

Habitat Survey UKHab

UKHab surveys will be undertaken within the LoD. Surveys will be based on methods described in version 1 of the UK Habitat Classification User Manual (2020)[25], with habitats assigned based on version 2.01 of the UK Habitat Classification User Manual (2023)[26]. The alphanumeric UKHab codes will be reported and mapped within the EIAR. Target notes of features of interest will be recorded (as appropriate) with a geographic reference and accompanying photograph(s), where relevant. Plants and their frequency of occurrence will be recorded using the subjective DAFOR scale (dominant, abundant, frequent, occasional or rare). Where encountered, invasive non-native species (INNS) will be recorded and reported. The nomenclature of vascular plants occurring within the defined survey area will follow Stace (2019)[27]. Condition scores for habitats will only be recorded within the LoD.

National Vegetation Classification (NVC) survey

National Vegetation Community (NVC) surveys will be undertaken up to 250 m from the LoD. These surveys will identify habitats with the potential to support groundwater-dependent terrestrial ecosystems (GWDTE) and other more sensitive habitats such as those within statutory protected sites or associated with e.g. Annex 1 habitats. The survey will be based on the methods described in Joint Nature Conservation Committee (JNCC) National Vegetation Classification: Users' handbook [28] with communities identified by eye. Target notes of features of interest will be recorded with a geographic reference and photographs taken, as appropriate. The findings of the NVC survey will be presented within the baseline results and mapped to show the location of potential GWDTEs coloured red, amber, green to illustrate their high, medium and low potential for ground water dependency. Assessment of GWDTEs with be presented within **Chapter 9: Hydrology, Hydrogeology, Geology and Soils** and not within the ecology chapter.

5.2.2 Baseline Condition

Designated Sites

There are no statutory or non-statutory designated sites for nature conservation within 2 km of the Proposed Development.

Ancient Woodland Inventory

There are 39 records of woodland listed on the AWI within 2 km of the Proposed Development, listed in **Table** 5.1 and presented on **Figure 5.1**.

[24] Collins, J (ed.) (2023) Bat survey for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.
[25] Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1 at http://www.ukhab.org/
[26] UKHab Ltd (2023). UK Habitat Classification Version 2.01. Available at: https://www.ukhab.org.
[27] Stace, C. (2019). New Flora of the British Isles. 4th edition. UK. Cambridge University Press
[28] Joint Nature Conservation Committee National Vegetation Classification: Users' handbook (2006), Peterborough.

Table 5.1 Ancient Woodland Inventory sites within 2 km of the Proposed Development.

AWI Category	Number of AWI records within 2 km of Proposed Development
1a Ancient (of semi-natural origin)	16
2a Ancient (of semi-natural origin)	16
2b Long-Established (of plantation origin)	5
3 Other (on Roy map)	2

Protected Species

Bats

Commercial forestry edges, watercourse corridors, and grasslands within 2 km of the Proposed Development provide foraging and commuting habitat for bats. Ninety-two bat records were available for this area from open-source data[29], all recorded within the last 20 years. The majority of these were recorded on the edge of Allt a' Mhuilinn, just north of Torrigorrie. Records include the following SBL species; Soprano pipistrelle (*Pipistrellus pygmaeus*), Brown long-eared bat (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*) and Daubenton's bat (*Myotis daubentonii*).

Otter

The Proposed Development and the surrounding landscape provide suitable commuting, foraging, and resting habitat for otter, particularly along Allt a' Mhuilinn / Bheith Oig and Alltan Dubh (and their tributaries) and along the banks of Loch Luichart and Loch Garve. Open-source data search returned three records for otter within 2 km of the Proposed Development within the last 20 years. Due to the legal protection afforded to otters and their associated population expansion since its implementation, it is reasonable to assume that otters use the habitat within / around the Proposed Development at this time.

Water vole (*Arvicola amphibius*)

Watercourses within 2 km of the Proposed Development have the potential to provide foraging and burrowing opportunities for water vole. Two records of water vole within the last 20 years were available for this area from open-source data, both near Altan Dubh. The main cause of water vole decline in the UK is American mink (*Neovison vison*), which has been recorded in the surrounding area within the last 15 years and could therefore be providing added pressure to water vole populations in proximity to the Proposed Development.

Pine marten *(Martes martes)*

Nine records of pine marten were available within 2 km of the Proposed Development from open-source data. As this species is recovering from historic persecution and the population has been demonstrated to be expanding out of its strongholds, it is reasonable to assume this species to be present along the Proposed Development in suitable habitat based on its known distribution[30]. This species is highly transient and both commercial forestry and broadleaved woodland within / adjacent to the Proposed Development provide suitable pine marten habitat.

Red squirrel (*Sciurus vulgaris*)

[29] NBN Atlas (2025) NBN Atlas Website [online] Available at: https://records.nbnatlas.org/ [Accessed: February 2025]

[30] Croose, E., Birks, J.D.S. & Schofield, H.W. 2013. Expansion zone survey of pine marten (Martes martes) distribution in Scotland. Scottish Natural Heritage Commissioned Report No.520.

Plantation woodland areas within 2 km of the Proposed Development provide suitable habitat for red squirrel. A high density of open-source data records for red squirrel were available for this area within the last 20 years. A high density of records for red squirrel were also available on the Saving Scotland's Red Squirrels database[31].

The extensive areas of coniferous woodland within the Proposed Development are assumed to support red squirrel. Grey Squirrel (*Sciurus carolinensis*) is not anticipated to be present in the area.

Wild cat (*Felis silvestris*)

No records for wildcat were available within 2 km of the Proposed Development within the last 20 years from open-source data. However, plantation woodland in proximity to the Proposed Development may provide suitable hunting and commuting habitats for wild cat.

The Proposed Development is located within the Strathpeffer Wildcat Protection Area (WPA).

Badger (*Meles meles*)

Suitable habitat for badger is present within 2 km of the Proposed Development including forest edges and clearings. Multiple recent records for badger were returned from the open-source data search within 2 km the Proposed Development.

Reptiles

Suitable and optimal habitat for reptiles is present within 2 km of the Proposed Development, including heathland and bog habitat mosaics present between plantation woodland stands. Fifteen records for adder (*Vipera berus*), twelve records for slow worm (*Anguis fragilis*) and numerous records of common lizard (*Zootoca vivipara*) were returned from open-source data search[32] within 2 km of the Proposed Development.

Other notable species

The number of records of other notable species of conservation concern that have been recorded within 2 km of the Proposed Development within the last 20 years are included **Table** 5.2 below.

Table 5.2 Other notable species recorded within 2 km of the Proposed Development

Common Name	Scientific Name	Records source	Number of records with 2 km of Proposed Development	Conservation Status
Common toad	*Bufo bufo*	Open-source data (NBN Atlas)	17	SBL
Mountain hare	*Lepus timidus*	Open-source data	2	SBL, HBAP

Habitats

Aerial imagery show that the Proposed Development is likely to cross through areas of blanket bog. Blanket bog is a SBL priority habitat and has the potential to further include EU Annex 1 habitats and potentially support GWDTE. The Proposed Development also has the potential to cross other SBL priority habitats including upland heathland and upland flushes, fens and swamps.

AWI

SSEN Transmission guidance for Biodiversity Net Gain (BNG)[33] defines irreplaceable ancient woodland as Categories 1a and 2a of the AWI. There are areas of ancient woodland (of semi-natural origin) (categories 1a

[31] Saving Scotland's Red Squirrels (2025) Squirrel Sightings [online] Available at: https://scottishsquirrels.org.uk/squirrel-sightings/ [Accessed: March 2025]
[32] NBN Atlas (2025) NBN Atlas Website [online] Available at: https://records.nbnatlas.org/ [Accessed: February 2025]
[33] Scottish and Southern Electricity Networks (2020) TG-NET-ENG-526: Biodiversity Net Gain Toolkit User Guide. Version 3.01. SSEN, Perth

and 2a) within 2 km of the Proposed Development, concentrated around the middle of the Proposed Development parallel to the A832 between Gorstan and Allt a' Bheith Og. NWWS mapping shows that the SBL priority habitats native pine woodland, upland oakwoods, wet woodland, upland birchwoods are also present within 2 km of the Proposed Development.

There may be direct impacts to these habitats from pole placement and access road construction. Indirect effects may also be experienced due to nearby construction activities e.g. disturbance to water supply, erosion of peat or deposition of dust.

5.3 Sensitive Receptors

The ecological baseline will be used to identify the sensitive ecological receptors that could be affected by the construction and operation of the Proposed Development.

The zone of influence (ZoI) is the area over which ecological features may be affected because of the Proposed Development, with the ZoI defined by the following:

- Hydrological connectivity (downstream) is limited to 1 km, aligned with standard practice measures outlined in **Chapter 9: Hydrology, Hydrogeology, Geology and Soils**;
- Groundwater connectivity is considered out to 250 m in line with SEPA guidance[34]; and
- Impacts associated with construction related emissions to air and noise will be controlled by the main works contractor to avoid significant effects through standard measures detailed within SSENs dust GEMP and the project CEMP and therefore will only be considered within the LoD.

The key sensitive receptors identified within zones of influence of the Proposed Development are:

- Nationally and internationally designated sites and their associated features;
- Habitats of value including Annex 1 habitats, those identified as GWDTEs, those listed on the SBL and HBAP, or those classed as irreplaceable (as per SSEN Transmission guidance) such as Category 1a and 2a AWI and blanket bog in good or moderate condition; and
- Species protected under National and International law (mammals (including bats) and herptiles), including those listed on the SBL and HBAP.

5.3.1 Embedded Mitigation

Embedded mitigation measures will be further implemented as both the detailed design continues and into the construction phase. These measures include implementation of SSE Transmission SPPs and GEMPs, and the timing of installation and careful siting of permanent and temporary structures to avoid or minimise interaction with sensitive ecological receptors.

Compliance with project wide and site-specific environmental management procedures, with reference to the Proposed Development's Construction Environmental Management Plan (CEMP) will also be implemented. This will describe the proposed approach to construction methods and environmental protection during construction of the Proposed Development, including (but not limited to) details of ecological constraints and measures (e.g., site working hours, control of light spill, noise emissions, pollution, dust management and avoiding incursion into habitats to be retained), procedures for surface water management and pollution prevention guidelines.

[34] SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Abstractions [Online] Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fijwd3q0y%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-abstractions.docx%23%3A~%3Atext%3DQualitative%2520assessment%2520of%2520the%2520potential%2Creversibility%2520of%2520any%2520potential%2520impacts.&wdOrigin=BROWSELINK (Accessed: March 2025)

SSEN Transmission have established GEMPs which will be implemented through the CEMP. Based on ecologically sensitive receptors identified in this Impact Assessment, relevant GEMPs include, but are not limited to:

- Working in or Near Water;
- Bad Weather;
- Working in Sensitive Habitats;
- Forestry;
- Working with Concrete;
- Oil Storage and Refuelling;
- Waste Management;
- Soil Management;
- Dust Management;
- Biosecurity (On Land); and
- Restoration.

SSEN Transmission have well-established SPPs for a number of protected species, which have been developed in consultation with NatureScot and are currently being used across other SSEN Transmission projects. Each SPP provides details on what actions are required should species be encountered during construction of the Proposed Development. Based on the ecologically sensitive receptors identified in this Impact Assessment, relevant protection plans include, but are not limited to:

- Badger SPP;
- Bat SPP;
- Otter SPP;
- Pine marten SPP;
- Red squirrel SPP;
- Water vole SPP; and
- Wildcat SPP.

Embedded measures to protect biodiversity will include a pre-construction site survey of the LoD or construction area plus the appropriate disturbance zone, by a suitably qualified Ecological Clerk of Works (ECoW), focusing on habitats and species to be directly and indirectly impacted by the Proposed Development. The purpose of these surveys would be to confirm any changes to, and update of the baseline, to confirm the data on which this Impact Assessment is based, are still true. Should a new species be identified, the appropriate SPPs (included within the CEMP) would be followed during construction of the Proposed Development (or appropriate best practice guidance where an SPP does not exist) and an assessment undertaken to understand the impacts the Proposed Development may have on that species, as well as any further measures that should be put in place, for example, protected species licensing.

A Construction Traffic Management Plan (CTMP) for the Proposed Development will also be implemented and will be updated iteratively in advance of the start of construction and throughout the construction phase. Whilst it is not an ecology-focused plan it will help to avoid / manage effects on ecological features in the vicinity of the areas to be directly affected, for example to prevent spillages, discharges, and unnecessary incursion into habitats, as well as implementing speed limits and caution signage etc. which may avoid or reduce direct mortality of species associated with vehicle collisions.

It is assumed that during operation and maintenance activities pertinent SPPs and GEMPs will be adhered to as standard practice and hence the measures detailed within them will be implemented.

All permanent loss of woodland attributed to the Proposed Development, shall be replaced through compensatory planting, and as such, this is considered to form part of the embedded mitigation. Further details of the forestry assessment can be found in **Chapter 7: Forestry**.

5.4 Issues Scoped Out

Ecology and nature conservation features identified within this chapter could be affected by lighting, noise, dust, visual disturbance, and pollution (associated with direct release of construction related contaminants to habitats, in particular aquatic/wetland habitats) caused by construction activities. It is anticipated that these issues will be controlled through implementation of embedded mitigation. It is considered that there is no potential for significant impacts and these are scoped out of the ecological assessment.

Hydrological connectivity to sites designated for nature conservation is not expected to exceed 1 km, in line with **Chapter 9: Hydrology, Hydrogeology, Geology and Soils**, on account of the dilution effects of silt and pollutants downstream, as such designated sites beyond this threshold are scoped out of the assessment.

Due to the nature of the works, impacts to protected sites designated only for habitat interest features at distances more than 250 m from the Proposed Development have been scoped out based on a lack of impact pathway, considering groundwater disturbance.

Impacts associated with construction related emissions to air and noise will be controlled to avoid significant effects through standard measures detailed within the project CEMP and SSEN Transmission's GEMPs (**Section 5.3.2**), as such effects of construction related emissions to air and noise are scoped out of the assessment.

5.5 Potential Significant Effects

Potential adverse effects identified as a result of the desk-based study, and which will be considered in the EIA include:

- Direct mortality to fauna through traffic collisions and construction related operations (open trenches and woodland felling operations).
- Disturbance / displacement of protected species and their places of shelter through construction related operations.
- Habitat loss both temporary and permanent associated with temporary and permanent infrastructure.
- Habitat fragmentation and severance through removal of woodland listed on the AWI creating isolated and fragmented pockets of woodland. Effects may be temporary and permanent associated with temporary and permanent infrastructure.
- Pollution associated with direct release of construction related contaminants to habitats in particular aquatic/ wetland habitats.
- Hydrological change resulting in drying of GWDTE habitats or excessive wetting of dryer habitats.
- Biosecurity risks (spread of invasive species, amphibian diseases) resulting in biodiversity loss from the Proposed Development due to indirect mortality or species being out competed.

5.6 Assessment Methodology

The ecological impact assessment (EcIA) will be completed in cognisance of the Charted Institute of Ecological and Environmental Management (CIEEM) Ecological Impact Assessment Guidance[35].

The assessment will use the ecological baseline to identify the sensitive ecological receptors that could be affected by the construction or operation of the Proposed Development. Each receptor will be assigned a geographic level of importance based on its national and local conservation status and population / assemblage trends and other relevant criteria (including size, naturalness, rarity and diversity). Details of the Proposed Development will then be used to assess what level of effect each receptor is likely to receive and whether or not that impact will be beneficial or adverse, significant or not significant, and temporary or permanent.

Where appropriate, mitigation measures will be recommended within the EIA to remedy any adverse impacts and measures to enhance the local ecology will also be incorporated within the assessment. An assessment of residual effects will then be undertaken and reported within the EIAR.

5.6.1 Additional Non-EIA Assessment

In parallel to the EcIA a report to inform Habitat Regulations Appraisal (HRA) will be undertaken to identify any Likely Significant Effects (LSEs) arising from the Proposed Development on European sites or wetland sites of international importance (Ramsar).

5.6.2 Proposed Approach to Biodiversity Net Gain

SSEN Transmission has developed specific guidance and toolkits to measure BNG, based on the Natural England Biodiversity Metric 3.1 and adapted to reflect the requirements of Scottish Habitats[36]. Area and linear habitats are assessed separately. The toolkit produces a unit score for three categories of habitat: Biodiversity Units[37], Linear Hedgerow (H) Units and Linear Watercourse (W) Units[38]. The BNG toolkits are used to quantify losses and gains of biodiversity, allowing site locations or design options to be compared and the preconstruction baseline and proposed post-development planting to be assessed. This supports the mitigation hierarchy through project design and development and enables biodiversity units to be calculated and measured.

Irreplaceable habitats and designated sites (e.g. SPAs, SACs, SSSIs) must be identified. Impacts to these areas should be avoided, mitigated and, as a last resort, compensated for, following national legislation, policy, and guidelines. Irreplaceable habitats include AWI Categories 1a and 2a, ancient and veteran trees, and blanket bog (in good or moderate condition). Where unavoidable impacts to irreplaceable habitats are identified, these are removed from the toolkit and assessed separately. The biodiversity metric will be used to calculate the mitigation required for any losses, aiming to create more valuable habitat than is lost. The restoration of irreplaceable habitats is preferred to the creation of new habitats.

A BNG Assessment Report will be produced, detailing the approach to assessment and toolkit results (including baseline units, post development units, temporary impacts and impacts on irreplaceable habitat). The BNG Assessment Report will include the proposed planting design to achieve the target biodiversity units.

In undertaking BNG reporting, as per SSEN Transmission policy, the requirements of Policy 2 - Nature Protection, Restoration and Enhancement of the Inner Moray Firth Local Development Plan 2 (July 2024)[39] will

[35] CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.2. Chartered Institute of Ecology and Environmental Management, Winchester [Accessed: March 2025].
[36] Scottish and Southern Electricity Networks (2020) TG-NET-ENG-526: Biodiversity Net Gain Toolkit User Guide. Version 3.01. SSEN, Perth
[37] The Biodiversity Units associated with area (polygon) habitats.
[38] The Biodiversity Units associated with linear habitats (hedgerows or watercourses).
[39] The Highland Council (2024), Inner Moray Firth Local Development Plan 2.

be met for “National, Major and EIA Developments”, as well as National Planning Framework 4 (NPF4)[40] Policy 3 (Biodiversity).

5.7 Summary

Protected and priority species identified as potentially present within or adjacent to the Proposed Development include otter, water vole, red squirrel, pine marten, badger, herptiles, wildcat and bat species. Suitable habitat for mountain hare is also present in the vicinity of the Proposed Development.

The EIAR will identify where species require to be safeguarded through further pre-construction surveys informing appropriate mitigation prior to construction. This information will be captured and administered through a CEMP and SSEN Transmission’s SPP’s prior to and during construction and audited by an ECoW during and post-construction.

Habitats recorded along the Proposed Development from surveys undertaken include EU Annex 1 habitats and SBL priority habitats and potential GWDTEs. These habitats may be affected by excavation and vegetation clearance works during construction. These potential effects will be considered in further detail within the EIAR to establish the potential for significant impacts and identify appropriate mitigation.

At this preliminary stage, possible effects scoped in include disturbance of protected and priority species, habitat loss and degradation, pollution, and hydrological changes.

Issues scoped out of the Ecology and Nature Conservation assessment include:

- Construction impacts on ecological and nature conservation features associated with lighting, noise, dust, visual disturbance and pollution;
- GWDTEs ruled out through hydrogeological conductivity calculations and those out with 250 m of the Proposed Development;
- Impacts on designated sites potentially hydrologically linked to but in excess of 1 km from the Proposed Development;
- Impacts on protected sites designated only for habitat interest features at distances of more than 250 m from the Proposed Development;
- Impacts on sites designated for ornithological features only (These are assessed in **Chapter 6: Ornithology**); and
- Impacts on sites designated for geological features only (These are assessed in **Chapter 9: Hydrology, Hydrogeology, Geology and Soils**).

[40] Scottish Government (2024), National Planning Framework 4.

6. ORNITHOLOGY

6.1 Introduction

The EIA Scoping report will consider the potential effects of the Proposed Development on ornithology receptors. Evaluation of the existing baseline will be made through a combination of desk-based study, field surveys, and consultation.

6.2 Baseline Conditions

6.2.1 Baseline Data Collection

The ornithology baseline conditions for the Proposed Development will be characterised through a combination of desk-based study and field surveys as detailed below. The baseline conditions are detailed in **Section 6.2.2**.

Desk-based Study

A desk-based study has been undertaken to identify sensitive ornithological features in the vicinity of the Proposed Development. A review of designated sites was undertaken using information from NatureScot SiteLink[41]. Information requests have been submitted to:

- Highland Biological Record Group (HBRG);
- Highland Raptor Study Group (HRSG); and
- Royal Society for the Protection of Birds (RSPB).

An initial data search was undertaken, covering a wider area than the alignment of the Proposed Development considered in this Scoping Report. Records of eagle species out to 6 km from the Proposed Development and of other priority raptors out to 2 km from the Proposed Development were obtained from HRSG. The baseline of this Scoping Report focuses on records of species associated with the alignment of the Proposed Development.

Field Surveys

SSEN will complete a bird survey programme to collect up-to-date data within the alignment. These surveys will then be used to inform any subsequent assessment and provide evidence to support habitat management and mitigation proposals.

The field survey methodology and schedule are based on information gathered from the desk-based study as well as consultation with NatureScot, RSPB and HRSG. The field surveys set out below are informed by the known or potential presence of sensitive bird species along the alignment of the Proposed Development, including qualifying features associated with nearby designated sites.

The following guidance, information and research informed the design of the survey methodology, in addition to species/group specific references listed under the relevant survey methods:

- NatureScot (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms[42];
- NatureScot (2016). Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds[43]; and
- NatureScot (2016). Assessing Connectivity with Special Protection Areas (SPAs)[44].

[41] NatureScot (2024) SiteLink Website [online] Available at: https://sitelink.nature.scot/ [Accessed: March 2025]
[42] NatureScot (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. Version 2 [online] Available at: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms [Accessed: March 2025]
[43] NatureScot (2016) Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds [online] Available at: https://www.nature.scot/doc/guidance-assessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds [Accessed: March 2025]
[44] NatureScot (2016) Assessing Connectivity with Special Protection Areas (SPAs). Inverness [online] Available at: https://www.nature.scot/doc/assessing-connectivity-special-protection-areas [Accessed: March 2025]

Based on the location and nature of the Proposed Development as well as the desk-based review of available information, the following bird surveys were identified as required to inform the EIA:

- Flight activity surveys;
- Breeding bird surveys;
- Breeding woodland grouse surveys;
- Breeding raptor surveys; and
- Breeding diver surveys.

The following sections set out the survey methods for each of these surveys, together with the approach to identifying survey areas for each type of survey.

Flight Activity Surveys, September 2024 – August 2025

Flight activity surveys from four Vantage Points (VPs) are currently being undertaken to collect data to quantify the level of flight activity and its distribution in the vicinity of proposed OHL infrastructure. The data will also be used to provide an overview of bird usage of the survey area, which will help inform the assessment of potential disturbance and displacement, as well as identify sections of OHL where mitigation measures may be required.

The VP survey methodology is based on guidelines outlined by NatureScot on the assessment of onshore windfarms[45] and the assessment of impacts of power lines on birds. Viewsheds from VPs aim to cover 180 degrees. During each VP survey the viewshed is scanned using binoculars and a telescope, if required, until a target species is detected in flight. Once detected, the bird is followed until it ceases flying or is lost from view. The time the bird is first detected and duration of the flight, while in sight, is recorded on standardised VP recording forms. The flight line of the bird is plotted on to a 1:25 000 scaled map in the field.

The flight height of target species is estimated at the time of detection and at 15 second intervals until the bird(s) are lost from view or have moved outside of the viewshed. Changes in height bands during flights are marked on the map. Flights are categorised into three height bands: below collision risk height (0-5 m); within collision risk height (>5 to 20 m); and above collision risk height (>20 m). If multiple flights occur together, the movement of target species is prioritised over that of secondary species.

Flight activity target species comprise:

- All Schedule 1[46] and / or Annex I[47] raptors;
- All owls;
- All divers;
- Geese (except Canada goose (*Branta canadensis*));
- All terns;
- All skuas;
- All waders;
- Ducks (except mallard, *Anas platyrhynchos*);
- All grebes; and
- Grouse species excluding red grouse *(Lagopus scotica*).

[45] NatureScot (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. Version 2 [online] Available at: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms [Accessed: March 2025]
[46] UK Government Legislation (1981) Wildlife and Countryside Act 1981 [online] Available at: https://www.legislation.gov.uk/ukpga/1981/69/contents [Accessed: March 2025]
[47] EUR-Lex (2025) Legal content [online] Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:ev0024&frontOfficeSuffix=%2F [Accessed: March 2025]

Passerine flights are not being mapped, but any movements of notable birds, i.e., red-listed Birds of Conservation Concern (BoCC)[48], is being recorded. Secondary species flights are similarly not being mapped but the number, duration and height of flights is summarised during surveys. Secondary species comprise:

- Red grouse;
- All egrets;
- All gulls;
- Cormorant *(Phalacrocorax carbo)*;
- Shag (*Phalocrocorax aristotelis*);
- Sparrowhawk (*Accipiter nisus*);
- Buzzard (*Buteo buteo*);
- Kestrel *(Falco tinnunculus*); and
- Raven (*Corvus corax*).

Survey Timing and Effort

Flight activity survey timing and effort follow the recommendations set out by NatureScot[49]:

- 12 months of survey, during September 2025 – August 2025 inclusive, comprising:
    - 36 hours of observation will be collected from each VP during the breeding season survey;
    - 36 hours during the non-breeding season;
- VP watches are of three hours' duration (i.e., 12 three-hour watches per season); and
- VP surveys are stratified across daylight hours to give a representative sample of site use.

Survey Area

VP locations and viewsheds are shown in **Figure 6.1**. VP survey areas do not provide 100% coverage of the Proposed Development. The approach in selecting survey areas followed that set out in NatureScot recommendations for bird surveys of OHL projects. Flight activity surveys have targeted areas within connectivity distance of designated sites for relevant qualifying bird species, and where suitable habitat for qualifying species or other sensitive species exists.

Areas covered by flight activity surveys may change between the breeding and winter seasons (e.g., where intensive arable land provides important foraging habitat for wintering wildfowl but does not support designated site qualifying interest feature or sensitive species during the breeding season). Survey coverage was informed by development of zones of theoretical visibility (ZTVs) using a digital elevation model (DEM) and were ground-truthed to confirm the visible survey area. VP locations for the 2024-2025 surveys were ground-truthed in September 2024.

<u>Breeding Bird Surveys, April – July 2025</u>

Surveys are planned to be undertaken to identify breeding bird communities along the Proposed Development alignment. The recording methodology is following the approach of Brown & Shepherd[50] and a scaled-down Common Bird Census[51] methodology. The recommended method calls for four survey visits to be undertaken, one between April - July, in weather conditions suitable for recording (avoiding heavy rain, strong winds, and poor visibility).

[48] Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds, 114, 723-747.

[49] NatureScot (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. Version 2 [online] Available at: https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms [Accessed: March 2025]

[50] Brown, A.F. and Shepherd, K.B. (1993) A method for censusing upland breeding waders. Bird Study, 40(3), pp.189-195.

[51] Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird Monitoring Methods. RSPB, Bedfordshire.

The breeding bird survey will encompass an area extending up to 500m out from the Proposed Development and access tracks, where access is safe and permissible and is presented in **Figure 6.2**. In accordance with guidance[52], the survey area for breeding birds extends to 500 m either side of the alignment.

Periodic scanning for birds and stops to listen for bird calls and songs will be incorporated into the survey. On completion of surveys, field data will be interpreted using British Trust for Ornithology (BTO) breeding evidence criteria to assign birds into one of three categories of breeding status: confirmed, probable and possible.

Breeding skylark (*Alauda arvensis*) and meadow pipit (*Anthus pratensis*) populations will be defined by the highest recorded count of singing birds from survey visits. The number and indicative location of likely bird territories will be estimated by grouping species registrations from the survey visits to produce a breeding bird territory map. Birds flying over the site, species suspected to be on migration, or suspected to be summering non-breeders, will be categorised as non-breeding.

Woodland Grouse (Black grouse) Surveys, April – May 2025

Records of lekking sites for black grouse and capercaillie have been obtained from RSPB. This helps reduce the risk of unnecessary disturbance to leks. Capercaillie have not been recorded breeding within the survey buffer and have been scoped out of the woodland grouse survey schedule.

Surveys for woodland grouse lekking sites will extend up to 1.5 km from the Proposed Development and associated access tracks as shown in **Figure 6.2**, focussing upon suitable habitat in accordance with guidance[53], where records indicated the species liable to be present. Surveys will comprise three visits between April and May and will follow best practice survey methods[54]. Surveyors will scan pre-identified habitats from strategic locations, avoiding disturbance. Surveys will commence from one hour before dawn until two hours after sunrise, in calm dry conditions with good visibility.

Breeding Raptor Surveys, April – July 2025

Records of breeding raptors have been requested from the HRSG during consultation, along with additional data from RSPB and the HBRG. This helps to avoid unnecessary disturbance to protected species by allowing surveys to be targeted at known territories whilst avoiding disturbance of known nest locations. Surveys for raptors will be undertaken in suitable habitat in accordance with best practice methods[55].

Surveys for breeding raptors will comprise four visits are programmed to place between April - July 2025 at suitable breeding habitats. Survey areas for the majority of species will extend to 2 km buffer outwith the Proposed Development and related access tracks, as shown in **Figure 6.2**. For owl species (not including short-eared owl (*Asio flammeus*) and goshawk (*Accipiter gentilis*) the radius is reduced to 1 km from the Proposed Development in accordance with survey guidance for these species[56], and for golden eagle (*Aquila chrysaetos*) and white-tailed eagle (*Haliaeetus albicilla*), surveys will extend up to 6 km from the Proposed Development.

Breeding Diver Surveys, May – August 2025

Breeding diver surveys will follow recommended survey techniques[57], with three visits to suitable waterbodies located within a 2 km buffer of the Proposed Development (see **Figure 6.2**), to be completed during May – August 2025 inclusive.

Surveyors will scan suitable waterbodies from discrete locations, initially to determine occupancy, and subject to breeding being determined, the degree or otherwise of breeding success.

[52] NatureScot (2016). Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds.
[53] NatureScot (2017). Recommended bird survey methods to inform impact assessment of onshore wind farms. Version 2.
[54] Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird Monitoring Methods. RSPB, Bedfordshire.
[55] Hardey, J., Crick, H., Wernham, C., Riley, H. & Thompson, D. (2009): Raptors: a field guide to survey and monitoring. 2nd Edition. Edinburgh.
[56] Scottish Natural Heritage (now NatureScot) (2017) Recommended survey methods to inform impact assessment on onshore windfarms. SNH, Battleby, 2017.
[57] Gilbert, G., Gibbons, D.W. and Evans, J. (1998). Bird Monitoring Methods. RSPB, Bedfordshire.

A summary of the ornithology survey programme is presented in **Table** 6.1.

Table 6.1 Survey Programme

Survey	Timeframe
Flight Activity Surveys	September 2024 - August 2025
Breeding Woodland Grouse Surveys	April - May 2025
Breeding Bird Surveys	April - July 2025
Breeding Raptor Surveys	April - July 2025
Breeding Diver Surveys	May - August 2025

This ornithological baseline will help identify sensitive receptors that could be impacted by the construction and operation of the Proposed Development. The survey data will be used as needed to inform subsequent assessments and to support habitat management and mitigation proposals.

Sensitive ornithological receptors identified along the alignment are detailed in **Section 6.3**.

6.2.2 Baseline Conditions

The ornithology baseline will be informed by:

- The results of a desk-based review of publicly available information;
- Purchased ornithological data from the HRSG and the RSPB;
- Surveys and findings from nearby developments (namely Spittal, Loch Buidhe and Beauly 400 kV OHL Connection, Carn Fearna Wind Farm EIA, together with [where available], the EIAs of other projects with potential connectivity)[58]; and
- Data from the Proposed Development specific bird surveys.

The Proposed Development passes through suitable habitat and / or breeding territories of the following Schedule 1 / Annex I / and / or Birds of Conservation Concern red-listed (BoCC) species; osprey *(Pandion haliaetus);* and golden eagle.

The Proposed Development is anticipated to pass within potential breeding territories of the following Schedule 1 / Annex I / and / or BoCC red-listed breeding species: black grouse *(Lyrurus tetrix)*, red-throated diver (*Gavia stellata*), goshawk, hen harrier *(Circus cyaneus);* red kite (*Milvus milvus*); white-tailed eagle; barn owl *(Tyto alba);* merlin *(Falco columbarius);* and peregrine *(Falco peregrinus).*

Lastly, in the non-breeding season, the Proposed Development anticipated to intersect with commuting routes of the following Schedule 1 / Annex I / and / or Birds of Conservation Concern (BoCC) red-listed species; greylag goose (*Anser anser*), pink-footed goose[59] (*Anser brachyrynchus)* and whooper swan (*Cygnus cygnus).*

6.3 Sensitive Receptors

Sensitive receptors that have potential to be impacted by the Proposed Development comprise designated sites and protected species.

[58] Information obtained from other surveys will be reviewed and summarised in baseline reporting so as to be able to inform the subsequent production of the EIA.

[59] Pink-footed goose is a BoCC amber-listed species but is included here given the species's abundance, connectivity with the alignment location and as it is a qualifying component of the adjacent Cromarty Firth SPA.

6.3.1 Designated Sites

There are six international / national sites with a statutory designation for ornithology (SPA, and / or Ramsar site) with potential connectivity (up to 20 km) to the Proposed Development[60]. There are no SSSI sites with qualifying ornithology feature/s situated within the assessment distance (up to 2 km for SSSI sites). The sites and their qualifying features are identified in **Table** 6.2 and their location relative to the Proposed Development is shown in **Figure 6.3.**

Table 6.2 Designated Sites for Ornithology Importance within 20 km of the Proposed Development

Statutory Sites	Qualifying Feature/s	Proximity
Glen Affric to Strathconon SPA	Breeding golden eagle (*Aquila chrysaetos*).	1.2 km to S
Ben Wyvis SPA	Breeding dotterel *(Charadrius morinellus*).	2.8 km to NE
Achanalt Marshes SPA	Breeding wood sandpiper (*Tringa glareola*).	6.1 km to W
Beinn Dearg SPA	Breeding dotterel.	11.6 km to NW
Cromarty Firth SPA and Ramsar Site	Breeding populations of common tern (*Sterna hirundo*) and osprey (*Pandion haliaetus*); non-breeding populations of greylag goose *(Anser anser*), whooper swan (*Cygnus cygnus*), wigeon (*Anas penelope*), pintail *(Anas acuta*), red-breasted merganser (*Mergus serrator*), oystercatcher *(Haematopus ostralegus*), curlew, (*Numenius arquata*), bar-tailed godwit, *(Limosa lapponica*), knot (*Calidris canutus*), dunlin (*Calidris alpina sp*.) and redshank (*Tringa totanus*).	14.95 km to SE
Novar SPA	Breeding capercaillie (*Tetrao urogallus*).	16.08 km to E

6.3.2 Species

SPA / Ramsar / Schedule 1-listed / Annex I-listed and / or BoCC red-listed nesting bird species known to have bred within the buffer zones of the Proposed Development include:

- Osprey; and
- Golden eagle.

In addition, the following SPA / Ramsar / Schedule 1-listed / Annex I-listed and / or BoCC red-listed bird species are known to / have potential to hold territories which encompass the area covered by the Proposed Development:

- Black grouse;
- Red-throated diver;
- Honey buzzard;
- Goshawk;
- Hen harrier;
- Red kite;
- Merlin; and
- Peregrine.

[60] Scottish Natural Heritage (now NatureScot) (2016) Assessing Connectivity with Special Protection Areas – Guidance [online] Available at: https://www.nature.scot/doc/assessing-connectivity-special-protection-areas [Accessed: March 2025]

Lastly, the following SPA / Ramsar / Schedule 1-listed / Annex I-listed and / or BoCC red and amber-listed bird species are known to overwinter in locations with potential connectivity to the Proposed Development:

- Greylag goose;
- Pink-footed goose; and
- Whooper swan.

Species Record and Survey Results

NS, HRSG and the RSPB have been asked to provide latest details for SSEN projects[61] of Protected Species activity within 2 km of the Proposed Development (extended out to 6 km to include eagle species). From previous data requests covering the past five-year period, it is known that one osprey territory is situated within the 2 km survey buffer, together with two golden eagle territories situated within the 6 km survey buffer.

At the time of writing (April 2025) the Scoping Report flight activity surveys have recorded the following target species flying at risk height: golden eagle, red kite, goshawk, merlin and peregrine.

No other target species have been recorded in flight at risk height.

6.4 Issues Scoped Out

6.4.1 Emissions

Due to the nature of the works, impacts to birds and their habitats via emissions to air (e.g., from vehicle emissions during OHL line construction), as set out in **Table 2.1** have been scoped out.

6.4.2 Barrier Effects

Barrier effects occur where the vertical configuration of wires and poles creates an actual or perceived barrier which birds may not cross. There is an existing 132 kV OHL and 275 kV OHL running parallel or in proximity for much of the length of the Proposed Development. Therefore an additional line could present a barrier effect to flight activity, although given the relatively low height of the Proposed Development together with survey data from other areas of Scotland (e.g., SSEN, 2023)[62], this suggests that birds will habituate to the presence of OHLs and would not treat the Proposed Development as a barrier in these areas. Therefore, the effect of this impact is considered to be of negligible significance and was therefore scoped out from further assessment.

6.4.3 Electrocution

Electrocution of birds from OHLs can occur where birds perch on or near live conductors. For a bird to be electrocuted it must either make contact with a conductor whilst on top of a tower, make contact with a conductor and an earth wire at the same time, or make contact with two conductors at the same time. The exact configuration of the wires and poles of the Proposed Development is to be confirmed. However, the proposed configuration includes at least 2.3 m to 2.6 m horizontal spacing between the conductor wires, with insulators that hang vertically approximately 1.5 m from the pole cross arms supporting the conductors (i.e., a distance of approximately 1.5 m between the live conductor and pole arm above it). The wood poles are non-conductive and ADSS is strung approximately 3 m below the cross arms of wood poles. The species present in the Proposed Development area with the largest wingspan is white-tailed eagle, which has a wingspan of 2.4 m. There is therefore considered to be risk of electrocution from birds perching on conductors and less risk of electrocution for birds sitting on poles. As mitigation, Bird flight Diverters could be installed in areas of frequent bird activity.

[61] Spittal – Loch Buidhe – Beauly 400 kV OHL Connection EIAR. 2025.
[62] SSEN (2003) Skye Reinforcement Project EIAR. SSEN Transmission.

6.5 Potential Significant Effects

Potential adverse effects include:

- Indirect effects on sites designated for ornithological qualifying features e.g. Glen Affric to Strathconon SPA;
- Direct mortality to birds through traffic collisions and nest destruction during construction, and collision with operational OHL;
- Temporary disturbance / displacement of birds as a result of construction activities;
- Habitat loss through forestry felling, access track construction and pole / structure locations;
- Habitat fragmentation and severance through access track construction and forestry removal;
- Hydrological change to habitats resulting in a change of use e.g. drying of wader foraging habitat; and
- Cumulative effects from other developments, either built or proposed, within the zone of influence for ornithological features identified as sensitive receptors of the Proposed Development.

The above effects could apply to Schedule 1 birds of the Wildlife & Countryside Act (WCA) 1981, Annex I species of the Birds Directive, and Red-listed BoCC.

6.6 Assessment Methodology

The ecological impact assessment will be completed in accordance with CIEEM Ecological Impact Assessment Guidance[35].

The assessment will use the ecological baseline to identify the sensitive ecological receptors that could be affected by the construction or operation of the Proposed Development. Each receptor will be assigned a geographic level of importance based on its national, regional, and local conservation status and population / assemblage trends and other relevant criteria (including size, naturalness, rarity and diversity).

The assessment will take into consideration NatureScot guidance on the assessment and mitigation of impacts of powerlines and guyed meteorological masts on birds[63]. To assess potential collision mortality impacts, a quantitative collision risk assessment may be undertaken using a revised version of the band model developed for use in wind farm impact assessments.

As the Proposed Development passes connectivity distance of a number of SPAs and Ramsar sites, a Habitat Regulations Appraisal[64] under The Habitats Regulations[65] will be required. As part of the HRA, the competent authority would be required to undertake an Appropriate Assessment. The EIAR will include relevant information to allow the competent authority to undertake this assessment.

6.7 Summary

Desk study and field surveys have been undertaken to inform the ornithology baseline. The results have identified that the project area is used by a wealth of sensitive bird receptors including breeding Schedule 1 birds of the WCA Act 1981, Annex I species of the Birds Directive, and BoCC. At this preliminary stage, possible effects scoped in include mortality and disturbance to ornithology receptors, habitat loss and degradation, disturbance and displacement, collision risk, and changes to hydrology.

[63] NatureScot (2016) Guidance - Assessment and Mitigation of Impacts of Power Lines and Guyed Meteorological Masts on Birds. Inverness [online] Available at: https://www.nature.scot/doc/guidance-assessment-and-mitigation-impacts-power-lines-and-guyed-meteorological-masts-birds [Accessed: March 2025]

[64] NatureScot (2025) Habitats Regulations Appraisal (HRA) [online] Available at: https://www.nature.scot/professional-advice/planning-and-development/environmental-assessment/habitats-regulations-appraisal-hra [Accessed: February 2025]

[65] UK Government Legislation (2017) The Conservation of Habitats and Species Regulations 2017 [online] Available at: https://www.legislation.gov.uk/uksi/2017/1012/contents [Accessed: March 2025]

The EIAR will identify where species require appropriate mitigation during construction and / or operation to reduce impacts where possible. This information can be captured and administered through a CEMP and SSEN Transmission's SPP's prior to and during construction and audited by an ECoW during and post-construction.

7. FORESTRY

7.1 Introduction

The EIAR forestry chapter will assess the potential effects on forestry and woodland areas resulting from the Proposed Development. Evaluation of the baseline woodland characteristics will be made through a combination of desk-based study, walkover forestry surveys and consultation. A Forest Design Plan will be prepared which will detail felling and replanting proposals, illustrating the forest requirements associated with the construction and operation of the Proposed Development.

7.2 Baseline Conditions

Desk based studies and forestry walkover surveys have been undertaken to confirm the extent of the woodland areas affected by the Proposed Development, and to further assess the current woodland characteristics and the wider impacts the Proposed Development would have on the forest and woodland resource.

There are large areas of commercial forestry within the Proposed Development with the potential to compromise forestry operations resulting of loss in commercial returns. The total woodland area within the Proposed Development operational corridor is approximately 19.56 ha, of which approximately 17.57 ha is conifer plantation, and 1.99 ha is ancient semi-natural woodland (ASNW). These areas of forestry are illustrated in **Figure 7.1**.

As part of their commitment to replacement planting of any trees lost to development, SSEN Transmission will undertake compensatory planting of any trees lost during the construction of the alignment, ideally within the same geographical area if possible.

7.3 Sensitive Receptors

Based on the results from the desk-based study and forestry walkover surveys, the Proposed Development will cross ancient woodland (category 2a) of semi-natural origin with low biodiversity value species present (a mix of young conifers and beech), as well as large areas of commercial forestry plantations. As it passes directly through ancient woodland and has the potential to cause barrier effects to designated areas and qualifying SPA species. There is native pinewood woodland in the east and upland birchwood in the central and western areas.

Impacts on commercial forestry and the ancient woodland that have been identified will be assessed and included in the EIAR.

7.4 Issues Scoped Out

The Proposed Development will not change the forestry land-use of the wider area. The woodland removal for the OHL operational corridor or other components of the Proposed Development will produce an area of open ground within the overall woodland structure (which has the potential to be partially replanted with low growing native trees and shrubs). As such, no further assessment of land-use change is anticipated and would not be included in the forestry chapter. Any management felling areas identified (areas of felling outside of the operational corridor to mitigate windthrow impacts) will be replanted by the landowner, in-line with the Scottish Forestry felling licence regulations.

Secondary effects resulting from forestry activities, including effects on ecology, ornithology and hydrology, will be considered within their respective chapters of the EIAR and would not be included within the forestry chapter.

7.5 Potential Significant Effects

The potential forestry effects associated with the construction and operation of the Proposed Development include:

- Temporary or permanent woodland cover loss and fragmentation;

- Potential for windthrow risk and identification of windfirm boundaries;
- Loss of timber volume production due to early felling;
- Disturbance of ground by forestry machinery; and
- Tree debris / mulch remaining on site may cause area to take longer to recover the native ground flora.
- Mitigation measures to minimise the above potentially significant effects may include:
- Continuous evaluation and consideration of the likely significant effects identified to date;
- Reduction of the operational corridor through sections of lower-growing forestry (for example, where conifers cannot reach average top heights due to poorer ground conditions, and hence are less likely to impact on the line); and
- In-line with the Scottish Government's Control of Woodland Removal Policy (CoWRP), compensatory planting would be required for all areas of woodland loss associated with the Proposed Development, therefore, achieving no net loss of woodland cover.

7.6 Assessment Methodology

The forestry assessment will focus on areas of commercial forestry and ancient woodland through which the Proposed Development is aligned. An OHL 'Red Zone' tree assessment will be carried out based on the maximum growth height of trees, considering tree species, growth rates, ground conditions and other site factors. This is to achieve resilience from tree fall that may damage or threaten the operation of the OHL.

Areas of forestry and woodland will be classified into categories detailing crop age, height, species and structure, and, where applicable, NVC classification of Ancient Semi-Natural Woodland (ASNW) areas.

This assessment will be based on the forestry elements associated with the requirement to deliver the Proposed Development, and where applicable, access track construction. The potential impact on wider forest management from the Proposed Development will also be assessed.

The establishment of an operational corridor is required to ensure the safe construction and operation of the OHL, and maintenance of the corridor is key to ensure that access to the line remains. Access within the corridor may in part be managed alongside 'biodiversity areas' planted up with native low-growing trees, shrubs and vegetation.

The assessment will consider the OHL operational corridor only, although recommendations for management felling areas may be made in cases where windthrow risk is high. However, any felling to adjacent woodlands undertaken outside of the operational corridor would be agreed pragmatically with but remain solely under the control of the landowner, and the Applicant would not have any influence or control over such. Consequently, the assessment is limited to consideration of the effects of the Proposed Development on forest composition, stability and yield. Where possible, the Applicant would seek to work with landowners to work within or modify an existing woodland management plan and hence accommodate the required felling for the Proposed Development into a wider felling operation. A restocking plan could then be taken forward in liaison with the landowner, allowing for planting of suitable native broadleaf species closer to the line in the form of a 'stratified edge', creating a softer wayleave and minimising the risk to future forestry operations from the OHL and vice versa.

7.7 Summary

The initial desk study and woodland site visits have identified that the Proposed Development would affect woodland areas. The predominant type of woodland affected is commercial forestry plantations, whilst also passing through multiple areas of ancient woodland. Compliance with the CoWRP through compensatory planting of the woodland removal area would achieve an overall no net loss of woodland.

8. CULTURAL HERITAGE

8.1 Introduction

This Scoping chapter will determine an appropriate baseline and assess the potential effects and impacts on sites of archaeological and cultural heritage interest resulting from the construction and operation phases of the Proposed Development.

This cultural heritage assessment will consider the potential to impact designated and non-designated sites found in the landscape. Designated sites will include World Heritage Sites (WHS), registered Battlefields, registered Gardens and Designed Landscapes (GDL), Scheduled Monuments (SM), Listed Buildings (LB), and Conservation Areas (CA). Non-designated sites will consist of those listed in the Canmore database[66] and Pastmap[67] which explores the Historic Environment Record (HER).

This Chapter is supported by the following figures:

- **Figure 8.1** Designated Assets;
- **Figure 8.2** Non-Designated Assets; and
- **Figure 8.3** Site Locations.

This chapter is supported by the following Technical Appendices:

- Technical **Appendix 8.1** Cultural Heritage Baseline Table.

8.1.1 Legislation, Policy and Guidance

The assessment is conducted with reference to the relevant statutory and planning frameworks for cultural heritage, which include:

- National Planning Framework 4 (NPF4)[68];
- The Historic Environment Scotland (HES) Act 2014[69];
- The Ancient Monuments and Archaeological Areas Act 1979[70];
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997[71];
- Scottish Planning Policy (SPP) (Revised 2020): Valuing the Historic Environment, Paragraphs 135-151[72];
- Historic Environment Policy for Scotland (HEPS)[73];
- Our Place in Time: The Historic Environment Strategy for Scotland[74];

[66] Canmore National Record of the Historic Environment, Available online at: https://canmore.org.uk/
[67] Pastmap Historic Environment Scotland. Available online at: https://pastmap.org.uk/
[68] Scottish Government. 2023. National Planning framework 4Scottish Government (2022) Scottish Planning Policy. Available at https://www.gov.scot/publications/national-planning-framework-4-revised-draft/pages/3/ (Accessed March 2025)
[69] Scottish Government (2014) Historic Environment Scotland Act 2014. Available at http://www.legislation.gov.uk/asp/2014/19/pdfs/asp_20140019_en.pdf (Accessed March 2025)
[70] UK Government (1979) The Ancient Monuments and Archaeological Areas Act [Online]. Available at https://www.legislation.gov.uk/ukpga/1979/46 (Accessed March 2025)
[71] UK Government (1997) The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 [Online]. Available at https://www.legislation.gov.uk/ukpga/1997/9/contents (Accessed March 2025)
[72] Scottish Government (2020) Scottish Planning Policy [Online]. Available at https://www.gov.scot/publications/scottish-planning-policy/pages/5/ (Accessed March 2025)
[73] Historic Environment Scotland (2019) Historic Environment Policy for Scotland [Online]. Available at https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=1bcfa7b1-28fb-4d4b-b1e6-aa2500f942e7 (Accessed March 2025)
[74] Scottish Government (2014) Our Place in Time: The Historic Environment Strategy for Scotland [Online]. Available at https://www.gov.scot/publications/place-time-historic-environment-strategy-scotland/ (Accessed March 2025)

- Highland-wide Local Development Plan (H-wLDP)[75];
- Planning Advice Note (PAN) 2/2011: Planning and Archaeology[76];
- Chartered Institute for Archaeologists (CIfA) Standards and Guidance for Desk-Based Assessments[77]; and
- HES Managing Change in the Historic Environment Series, specifically 'Managing Change in the Historic Environment: Setting'[78].

8.1.2 Methodology

This assessment utilises data from the Computer Application for National Monument Record Enquiries (CANMORE), National Record of the Historic Environment (NRHE), Pastmap and HES. In order to develop an appropriate baseline for assessment, a consideration is made for the potential direct, indirect, and setting impacts to designated and non-designated assets identified via these sources.

For the Proposed Development, two study areas will be implemented:

5 km radius study area for designated cultural heritage assets; and

250 m radius study area for non-designated cultural heritage assets.

An additional 100 m corridor from the Proposed Development centreline (included within the 250 m study area) will be implemented for discussion of direct impact to non-designated assets as a result of the construction phase.

To identify assets that will be potentially directly impacted, a Proposed Development footprint (including 100 m corridor) was utilised on the assumption that assets inside have the potential to be wholly or partially removed by construction of the Proposed Development.

In cultural heritage terms, a direct impact refers to a change that materially alters the state of the baseline condition of a heritage asset resulting directly from a project activity and operational processes. These are identified and represented spatially by assessing and understanding the known heritage presence and context, in conjunction with the relationship to project design features. Potential direct impacts will result from construction activities associated with ground disturbance, and the installation of buried and above-ground infrastructure associated with the Proposed Development.

Direct impacts to heritage assets may occur as a result of the following Proposed Development activities:

Road improvements and access creation;

Site compound and construction/installation;

Forestry clearance;

Construction compound installation; and

Proposed Development infrastructure installation, associated drainage etc.

In cultural heritage terms, an indirect impact refers to any change in the baseline condition of a heritage asset resulting from a project beyond the boundaries of the asset. Indirect impacts can have a variety of forms for instance if a project affects the water table, it could potentially damage the preservation of organic remains

[75] The Highland Council, Highland-wide Local Development Plan. Available at https://www.highland.gov.uk/info/178/development_plans/199/highland-wide_local_development_plan (Accessed March 2025)
[76] Scottish Government (2011) Planning Advice Note 2/2011 [Online]. Available at https://www.gov.scot/publications/pan-2-2011-planning-archaeology/ (Accessed March 2025)
[77] Chartered Institute for Archaeologists (2020) Standard and Guidance for Historic Environment Desk-Based Assessment. Available at https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf (Accessed March 2025)
[78] Historic Environment Scotland (2020) Managing Change in the Historic Environment: Setting [Online]. Available at https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=80b7c0a0-584b-4625-b1fd-a60b009c2549 (Accessed March 2025)

within buried archaeological contexts beyond its boundaries. Or indirect effect can present themselves by the introduction of noise, dust, or vibration.

Setting effects can occur during construction and operation. This assessment takes account of the potential for effects on the settings of internationally and nationally important designated cultural heritage assets that are situated within the within 5 km of the Proposed Development. 'Setting' is considered more than the immediate surroundings of a site or place and extends to include how a site was designed to function, how it was used, or how it was intended to fit within a landscape or townscape, and how it was meant to be seen or to allow areas to be seen. This definition also identifies that setting can include "areas that are important to the protection of the place, site or building". It must be noted that setting is not a fixed standard, instead it evolves over time.

The setting of a nationally important designated monument, building or landscape is defined by the way in which surroundings of a historic asset or place contribute to how it is experienced, understood and appreciated. This can incorporate a range of factors including views to, from and across the historic asset or place, key vistas, relationships between both built and natural features, aesthetic qualities, character of the surrounding landscape and non-visual factors such as sensory, historical or artistic factors.

Setting can be tangible, such as a defined boundary, or intangible, such as atmosphere or ambience. The main concern for visual effects on a Cultural Heritage setting is the potential for the Proposed Development to fragment the historic landscape, separate connectivity between historic sites and impinge on views to and from sites with important landscape settings.

To identify assets with indirect or setting impacts and develop an understanding of the wider heritage context of the area, two study areas were created: a 5 km buffer for designated assets and 250 m buffer (including a 100 m corridor for direct impact) for non-designated assets were generated from the footprint.

8.1.3 Assessment Limitations

This Cultural Heritage assessment has the following limitations.

- When investigation of a study area is restricted to desk-based research and walk-over surveys there remains uncertainty about buried, submerged, and riverine remains, and it remains important to emphasise that that absence of evidence is not evidence of absence. To alleviate this uncertainty intrusive survey would be required to physically inspect the area for the presence or absence of buried cultural heritage within the Proposed Development.
- The information from externally procured databases may contain errors. As this data has formed a major component of this baseline any of these errors may also be present in this report but may be mitigated through site visits/survey activities.

8.2 Baseline Conditions

8.2.1 Baseline

The proposed study area is considered appropriate for this assessment due to the need to understand the archaeological and landscape context and potential. The results of the known heritage baseline are presented below and in **Table** 8.1**.**

8.2.2 Topographic and Administrative Background

The Proposed Development is located approximately 12 km west of Dingwall in Scotland and the bedrock geology fluctuates from Glenfinnan Group, Garve Psammite Formation and Vaich Pelite Formation in the east to Crom Psammite Formation in the middle and west.

Topography fluctuates along the length of the Proposed Development from upland in the east to lowland in the mid-west. The groundcover is also varied along the length of the Proposed Development with forestry plantation

and agricultural land prominent in the middle-west. The Proposed Development crosses the Alltan Dubh watercourse at Little Garve, areas of forestry plantation, agricultural land and the A835.

8.2.3 Archaeological / Historical Background

The Proposed Development is situated in the Ross-shire region of the Highlands of Scotland, an area of rich cultural heritage value, comprising of assets dating from the prehistoric period to present day[79].

Prehistory (12,700 BC – 400AD)

From the commencement of the Holocene Period, around 11,500 years ago, Scotland underwent rapid deglaciation permitting the re-succession flora and fauna for habitable zones[80]. It is anticipated that numerous routes were used to repopulate and expand north into Scotland, via land, coastal tracking as well as island hopping, taking advantage of both marine and terrestrial resources (Ibid). Exploitation of lithic sources, and emergent woodland permitted the development of the palaeolithic 'toolkit', and continuity of a highly mobile lifestyle. At this time, despite fluctuations in population densities until the transition to (semi-)sedentary Neolithisation, the population appears to remain coastally oriented in the Highlands with early sites at South Cuidrach and An Corran on Skye and Inchnadamph in Sutherland[81].

Highland Mesolithic sites are rare, and when they are located, they consist primarily of cave and rock shelters, middens, and surface scatters. Settlements in this area were rarely permanent, and activity within the settlement varied greatly from multi-activity locations to temporary specialist sites. Archaeological evidence for the early prehistoric periods is sparse and to date no permanent settlements have been suggested for the Highlands. As such, there is only a low probability of identifying Palaeolithic or Mesolithic sites in the footprint of the Proposed Development.

The Neolithic Period c.4100 BC to 2500 BC, saw the adoption of new lifeways, specifically agricultural and animal husbandry. This change from hunter-gathering to agro-pastoralism was coincident with the arrival of new communities from the European continent. With these changes, new technologies were utilised in the area, including pottery. New practices also appear in the area, including the construction of megalithic chambered tombs and cairn mortuary activity. Despite the technological changes from the Mesolithic to Neolithic in areas, continuity from the Mesolithic is common beyond the Neolithic transition with hunting and gathering still being performed. Apart from megalithic tombs little is known about the Highlands during the Neolithic, as settlement sites are difficult to identify, and more research is needed[82]. There are no Neolithic monuments located within 5 km of the Proposed Development.

During the Bronze Age (c.2500 BC to 800 BC) more people inhabited the Highlands, and this may have been related to an influx of new people and technology. Evidence of the Bronze Age in the Highlands is unevenly distributed across the region and more research is required to fully understand it. However, there is much more archaeological evidence than from previous time periods. During the Bronze Age, the Highlands experienced the arrival of new people from the continent who brought with them a new type of pottery – Beaker pottery, as well as new technologies such as metal working[83]. Over the subsequent centuries, the influence of the Beaker people became widespread throughout the Highlands and integrated into the way of life. Evidence of the Bronze Age can still be seen in Ross-shire today, mainly through burial monuments such as cairns. There are no Bronze Age monuments located within 5 km of the Proposed Development.

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79 Highland Historic Environment Strategy. Available at: https://www.highland.gov.uk/downloads/file/11047/highland_historic_environment_strategy (Accessed February 2025).

80 Mithen, S. *et al.* 2015. A Lateglacial archaeological site in the far north-west of Europe at Rubha Port an t-Seilich, Isle of Islay, western Scotland: Ahrensburgian-style artefacts, absolute dating and geoarchaeology. Journal of Quaternary Science. July 2015 (Accessed February 2025).

81 Caroline Wickham-Jones, and Susan Kruse. (2023) Palaeolithic and Mesolithic | The Scottish Archaeological Research Framework (scarf.scot) (Accessed February 2025).

82 Alison Sheridan (2023) Neolithic: Settlement. | The Scottish Archaeological Research Framework (scarf.scot) (Accessed February 2025).

83 Susan Kruse, Rod McCullagh and Alison Sheridan. 6. Chalcolithic and Bronze Age | The Scottish Archaeological Research Framework (scarf.scot) (Accessed February 2025).

The Iron Age in the Highlands is not demarcated as in many parts of the UK by the arrival of the Romans, as the Romans did not create permanent settlements in the region[84]. Although scholars debate the period's beginning a tentative definition of the period can which be used is 1–299 AD – 300-1000 AD. The period is marked by the introduction of iron working technologies and additional settlement types including brochs, duns, wheelhouses, timber and stone-built roundhouse settlements, unenclosed platform settlements, crannogs, enclosed farmsteads and hillforts. There are no Iron Age monuments located within 5 km of the Proposed Development.

Medieval Period (c AD 400 – c AD 1600)

The Medieval period (400-1600 AD) in the Highlands differs from other parts of Scotland. It was a contested zone with primarily three external influences from the Norse, Scottish Kings, and the King of the Isles. The Norse were dominant in northern Scotland, until the 11th century. Then the following centuries were marked by feuding kingdoms and clans vying for control of the region. Medieval rural settlements are rare in the Highlands, the National Scottish Archaeological Research Framework (ScARF) noted there were fewer than ten medieval houses on the mainland dated between 400–1100. However, there are documented castles; and in the north and eastern Highlands, where Norse-style structures have been documented[85]. There are no Medieval monuments located within 5 km of the Proposed Development.

Post-Medieval Period (c AD 1600 – AD 1900) to Modern (AD 1900 - Present)

Throughout the post-medieval period in the Highlands dates (1600 to the Present), there have been enormous changes in the landscape of Scotland. By the 17th century, the multitudinous and joint occupancy farmsteads changed to single ownership farms and state-owned forests, and people moved into towns.

Industrialisation and Clearances in the 18th century changed the way the landscape was used and traversed in Scotland. Large parts of the Highlands were cleared for converting the already predominately rural lands into lands strictly devoted to sheep pastoralism. Rapid industrialisation in the 18th century resulted in the construction of a wide variety of structures, including those that result from military campaigning, such as the network of roads constructed under the auspices of Major General George Wade[86]. Ordnance Survey (OS) maps and modern aerial imagery of the Proposed Development indicate it has changed little since the 19th century. Mapping suggests that the area was predominantly agricultural land interspersed with conifer tree plantation. Mapping suggests that the area to the east was historically the Strathgarve Forest which was cleared in the 20th century. Evidence of post-medieval farming can be seen within the Proposed Development area, with remains of post-medieval farmsteads and associated features visible along the length of the alignment (CanID 103146, 103153, 105582). One Post-Medieval Scheduled Monument, Little Garve Bridge (SM2720) is located 0.53 km South of the development. The closest Listed Buildings dating to the post-medieval period are located in Lochluichart approximately 3 km to the west of the Proposed Development.

8.3 Sensitive Receptors

8.3.1 Designated Assets

There are no designated assets located within the Proposed Development. There are no World Heritage Sites (WHS), Conservation Areas (CA), Battlefields, or Gardens and Designed Landscapes (GDLs) within 5 km of the Proposed Development.

There are six designated assets located within 5 km of the Proposed Development. Consisting of:

[84] Susan Kruse (2023) Iron Age Introduction. Available at 7.1 Introduction | The Scottish Archaeological Research Framework (scarf.scot) (Accessed February 2025).
[85] Susan Kruse, Gordon Noble (2023) Early Medieval Introduction. Available at 8 Introduction | The Scottish Archaeological Research Framework (scarf.scot) (Accessed February 2025).
[86] Malcolm Bangor-Jones, Susan Kruse and Allan Kilpatrick (2023) Post-Medieval Introduction. Available at 10 Introduction | The Scottish Archaeological Research Framework (scarf.scot) (Accessed February 2025).

One Scheduled Monument:

- Little Garve Bridge (SM2720) located 0.53 km S.

Five Listed Buildings:

- Kinlochluichart Church of Scotland and Burial Ground (LB1774) comprising two Category B Listed Buildings located 3.3 km E;
- Kinlochluichart Old Manse and Steading (LB1775) comprising two Category C Listed Buildings located 3.3 km E; and
- Conon Valley, Hydro Electric Scheme, Achanalt Power Station and Dam (LB51705) a Category C Listed Building located 4.2 km E.

8.3.2 Non-designated Assets

There are four non-designated assets within 250 m of the Proposed Development:

- Corriemoillie, head dyke and township (CanID 103146) located 33.3 m S;
- Allt Abhagaith, enclosure, sheiling hut and wall (CanID 103153) located 48.4 m S;
- Corriemoillie, unroofed building (CanID 105582) located 54.1 m S; and
- Corriemoillie, farmhouse (CanID 272113) located 155.7 m S.

Of these, two assets (CanID 103146, 103153) are located within the 100 m corridor and one asset (CanID 105582) is located just outside the corridor.

8.3.3 Assessment of Effects

All designated assets within 5 km were considered for an assessment of changes to their setting, resulting from the introduction of the Proposed Development, which could potentially affect their cultural heritage significance. During this assessment, one designated asset was determined to have an effect to setting as a result of the Proposed Development.

All non-designated assets within 250 m were identified to inform the heritage baseline and a 100 m corridor implemented for assessment of direct impact resulting from the construction phase. During this assessment, two non-designated assets were determined at risk of direct impact as a result of the Proposed Development due to their location within the 100 m corridor. An additional one non-designated asset has been included due to its close proximity to the 100 m corridor.

Assets assessed as having the potential for impact are progressed for EIA assessment and detailed in **Table** 8.1 below.

Table 8.1 Sensitive Receptors

Gazetteer ID	Name	Reference	Designation	Description	Distance from project element
CF_01	Little Garve Bridge	SM2720	Scheduled Monument	The monument comprises a twin-arched stone bridge built in about 1762 as a component of the Contin to Poolewe military road and part of the wider 18th century military infrastructure constructed across Scotland.	0.53 km South

Gazetteer ID	Name	Reference	Designation	Description	Distance from project element
CF_07	Corriemoillie	CanID 103146	Non-designated	A post-medieval township comprising one unroofed and three roofed buildings, an enclosure and a head-dyke.	33.3 m South
CF_08	Allt Abhagaith	CanID 103153	Non-designated	What may be an unroofed shieling-hut and a length of wall, likely post-medieval in date.	48.4 m South
CF_09	Corriemoillie, unroofed building	CanID 105582	Non-designated	An unroofed building.	54.1 m South

8.4 Issues Scoped Out

The following conditions have been scoped out of further assessment:

- Any direct impacts to designated and non-designated assets beyond the boundary of the Proposed Development (outside the 100 m corridor); and
- Temporary indirect impacts (e.g. dust, noise and vibration) to assets beyond the boundary of the Proposed Development.

Four Listed Buildings located within Lochluichart (CF_02, 03, 04, 05) have been scoped out of this assessment. This is resulting from a desk-based screening exercise and review of their location over 3 km from the Proposed Development, with setting limited to within the community. An additional Listed Building: the Conon Valley, Hydro Electric Scheme (CF_06), has also been scoped out due to its location close to 5 km away and limited setting value. As such, the introduction of the development to the northeast is anticipated to be of no Impact to these assets.

Non-designated assets located outside the 100 m corridor have been scoped out at this stage. This is due to the low probability of direct impact to these assets. If development infrastructure changes (such as development of access tracks or lay down areas), these assets will need to be re-assessed.

Operational activities have been scoped out of further assessment, as routine maintenance is not anticipated to introduce new or different effects, however, emergency replacement may require cultural heritage assessment. It is also anticipated that indirect impacts to setting during construction are maintained through the operation phase.

8.5 Potential Significant Effects

Effects to Cultural Heritage assets have the potential to occur during construction as a result of either direct or indirect impacts. The Proposed Development has the potential to have significant effects (Major or Moderate Effects, as per **Table** 3.1**)** on Cultural Heritage assets.

The sensitive receptors identified range in sensitivity from low – high (**Table** 3.1). During the construction phase, direct and indirect impacts to assets may occur during ground-breaking activities. These ground-breaking activities may result in irreversible impacts, adverse to the integrity of the asset. The potential magnitude could range from negligible – high. Given the potential magnitude of impact, there remains the potential to introduce significant adverse effects to these assets.

There is potential for additional unknown and buried archaeological assets to exist within the Proposed Development. Therefore, there remains the potential for further significant effects to arise during construction activities.

8.6 Assessment Methodology

An assessment of direct and indirect impacts will be carried out and included in the EIAR, with reference to field reports, setting assessments, best practice guidance and methodologies, and in agreement with the Council Archaeology Unit and Historic Environment Scotland.

Effects on the cultural heritage assets will be assessed by comparing the visibility of the Proposed Development with known and potential cultural heritage sites and their setting. The creation of a Zone of Theoretical Visibility (ZTV) to analyse the visibility to and from the assets and the Proposed Development would help understand the impacts to the setting of assets who derive significance from their sitting in the landscape.

An archaeological walkover survey and setting assessment is required to develop the baseline by understanding the condition, extent, and nature of known assets and identifying any previously unknown heritage assets. Additionally, a characterisation of the general ground conditions can be made in reference to potential preservation.

Avoidance is the preferred method of mitigating adverse impacts to Cultural Heritage assets. In the event that avoidance is not proportionate or possible, an assessment should be made of the impact to asset and a mitigation strategy developed.

Additional archaeological investigations may be conducted as appropriate and proportionate, such as geophysical survey, trail trenching, and excavation, as determined by the results of the Environmental Impact Assessment and consultation with the Council Archaeology Unit and Historic Environment Scotland.

8.7 Summary

Within the Proposed Development, there is the potential for Significant Effects to Cultural Heritage assets.

An archaeological walkover survey and setting assessment for the Proposed Development is required to further develop the baseline and inform the impact assessment in relation to direct, indirect and setting impacts to known Sensitive Receptors.

During this walkover, suitably qualified archaeologists will assess the Proposed Development’s potential for buried archaeology as well as identify any unknown extant archaeological assets on the surface and conduct a field setting assessment.

9. HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND SOILS

9.1 Introduction

This EIAR chapter will assess the potential effects relating to hydrology, hydrogeology, geology, and soils in relation to the construction, operation and decommissioning phases of the Proposed Development.

The following study areas will be considered as part of the hydrology, hydrogeology, geology, and soils assessment:

- Geology, peat and soils study area: Proposed Development.
- Hydrology study area: a 1 km buffer zone around the Proposed Development as well as downstream receptors with hydrological connectivity to the Proposed Development. Potential effects to receptors beyond the 1 km buffer are conservatively considered to be negligible beyond this distance.

9.2 Baseline Conditions

This section outlines the baseline hydrological, hydrogeological and geological environmental conditions within the Proposed Development. The following data sources were reviewed as part of scoping:

- Ordnance Survey Raster Map data at 1:10,000, 1:25,000 and 1:50,000 scales;
- SEPA Water Classification Hub[87];
- SEPA Flood Maps[88];
- Scotland's Environment web-based maps[89];
- National Soil Map of Scotland[90];
- NatureScot 2016 Carbon and Peatland Map[91];
- British Geological Survey (BGS) Superficial, Bedrock and Hydrogeological maps[92];
- NatureScot SiteLink[93];
- Zetica Unexploded Ordnance (UXO) data[94];
- The Coal Mining Authority Interactive Map[95]; and
- The Highland Council private water supplies map[96].

9.2.1 Geology, Peat and Soils

Geological information pertaining to the Proposed Development was gathered from the British Geological Society (BGS) GeoIndex Onshore online mapping[91], including bedrock and superficial geology 1:50,000 scale, NatureScot's Carbon and Peatland Mapping[90] and National Scottish Soils mapping[92].

BGS GeoIndex indicates that the bedrock geology across the Proposed Development is comprised of the following formations:

87 SEPA (2024) Water Classification Hub. Available online at: https://informatics.sepa.org.uk/WaterClassificationHub/ (Accessed January 2025)
88 SEPA (2024) SEPA Flood Maps. Available online at: https://map.sepa.org.uk/floodmaps (Accessed January 2025)
89 Scotland's Environment (various) Scotland's Environment Map. Available online at: https://www.environment.gov.scot/maps/scotlands-environment-map/ (Accessed January 2025
90 Scotland's Environment (2024) National soil map of Scotland [online] Available at: https://soils.environment.gov.scot/ (Accessed: December 2024)
91 NatureScot (2016) Carbon and Peatland Mapping [online] Available at: https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/ (Accessed: December 2024)
92 BGS (2024) GeoIndex Onshore [online] Available at: https://mapapps2.bgs.ac.uk/geoindex/home.html (Accessed: December 2024)
93 Nature Scot SiteLink, available at https://sitelink.nature.scot/home (Accessed January 2025)
94 Zetica UXO (2025), available at: https://zeticauxo.com/guidance/risk-maps/ (Accessed January 2025)
95 Coal Authority Interactive Map (2025), available at: https://datamine-cauk.hub.arcgis.com/ (Accessed January 2025)
96 The Highland Council (THC) (2016) Private Water Supplies [online] Available at: https://map-highland.opendata.arcgis.com/datasets/ded172bbade24650bb2c1baec5e0d318_0?geometry=-6.146%2C57.483%2C-3.533%2C57.741 (Accessed December 2024)

- Crom Psammite Formation - metamorphic bedrock (psammite, pelite and semipelite) formed between 2500 and 541 million years ago between the Siderian and Ediacaran periods.
- Vaich Pelite Formation - metamorphic bedrock (pelite, semipelite and psammite) formed between 2500 and 541 million years ago between the Siderian and Ediacaran periods.

In addition, BGS GeoIndex indicates that the superficial geology underlying the Proposed Development is predominantly comprised of glacial deposits (diamicton, gravel, sand and silt) with localised areas of peat deposits in the west of the Proposed Development.

The Scotland Soils website[97] indicates that the Proposed Development is predominantly underlain by the following soil types:

- peaty gleyed podzols with dystrophic semi-confined peat with peaty gleys;
- peaty gleys with dystrophic semi-confined peat;
- humus-iron podzols with peaty gleyed podzols; and
- peaty gleys with dystrophic blanket peat with peaty gleyed podzols.

The NatureScot Carbon and Peatland mapping indicates that the majority of the Proposed Development is underlain by Class 5 peat, indicative of carbon-rich soils with potential deep peat, bare soils and no recorded peatland vegetation or habitats. Class 0 mineral soil is mapped locally in the eastern area of the Proposed Development, adjacent to the Alltan Dubh watercourse.

Throughout the Proposed Development, there will be areas of peat that will be disturbed during construction of the Proposed Development. Phase 1 peat probing surveys have been conducted, in accordance with Scottish Government guidance, to provide an initial understanding of peat depths across the Proposed Development and to inform the Proposed Development design and minimise peat disturbance.

A total of 467 peat probes were recorded during the surveys, with depths ranging from 0 to 4.05 m. The average recorded peat depth across the Proposed Development is 0.28 m. The results indicate that the western areas of the Proposed Development are predominantly underlain by shallow soils (<0.5 m) with very localised areas of peat (>0.5 m) recorded and a maximum depth of 1.7m situated to the southeast of Creagan na Criche. In the eastern areas of the Proposed Development, predominantly shallow soils were recorded.

An overview of the peat depths encountered during the Phase 1 peat surveys is presented in **Table** 9.1**.**

Table 9.1 Phase 1 Peat Probing Results

Peat Depth Range (m)	No. of Peat Probes	Percentage Total (%)
0 – 0.49	399	87.7
0.5 – 0.99	25	5.5
1.0 – 1.49	15	3.3
1.5 – 1.99	10	2.2
2.0 – 2.49	1	0.2
2.5 – 2.99	3	0.7
3.0 – 3.49	1	0.2
3.5 – 3.99	0	0
>4.0	1	0.2

[97] Scotland's Environment (2024) National soil map of Scotland [online] Available at: https://soils.environment.gov.scot/ (Accessed December 2024)

It should be noted that 12 of the peat probe locations were situated upon existing tracks, surface water features, or could not be accessed due to fallen trees. Therefore, this null data has been excluded.

All peat depth locations and interpolated peat depth results are presented in **Figure 9.1** and **Figure 9.2**.

9.2.2 Contaminated Land

Studies undertaken to date have not identified the presence of contaminated land along the alignment. In addition, according to BGS GeoIndex Mapping, there is no artificial ground recorded throughout the Proposed Development.

The Coal Authority Interactive Map indicates that the Proposed Development is not located within a coal mining reporting area and is, therefore, not considered to be at risk from coal mining activities.

In addition, the UXO Risk Maps indicate that the Proposed Development is situated within a low-risk area.

9.2.3 Hydrology and Hydrogeology

The topography of the study area is generally very hilly with an altitude ranging between approximately 73 m AOD to 764 m AOD. The Proposed Development is surrounded by several steep hills including: Beinn a Ghuilbein (450 m AOD), Little Wyvis (764 m AOD), Cnoc Achadh nan Cleireach (296 m AOD), Creagan an Eich Ghlais (225 m AOD), Cnoc na h-Iolaire (287 m AOD), and Beinn a Bhric (442 m AOD).

The study area is drained by several watercourses (**Figure 9.3**) including: Allt Fearna, Allt an Torra-bheithe, Allt Abhagaith, and Allt Cnoc nan Cleireach. Three Water Framework Directive (WFD) designated watercourses are within the study area and cross the Proposed Development including: the Allt Coire Mhuilidh (SEPA waterbody ID: 20198), the Allt a Mhuilinn (SEPA waterbody ID: 20184), and the Black Water (SEPA waterbody ID: 20180). The Allt Coire Mhuilidh within the River Conon surface water catchment has a SEPA classification of 'Moderate'. Allt a Mhuilinn and the Black Water also lie within the River Conon surface water catchment, and both have a SEPA classification of 'Good'.

All three WFD watercourses discharge into WFD classified waterbodies (lochs) within the study area:

- Loch Garve (SEPA waterbody ID: 100134) within the River Conon catchment with an area of 1.5 km².
- Loch Luichart (SEPA waterbody ID: 100131) within the River Conon catchment with an area of 6.3 km².

Both waterbodies have an overall classification of 'Good', although the SEPA Water Classification Hub[87] notes that Loch Luichart has been designated as a heavily modified waterbody on account of physical alterations that cannot be addressed without a significant impact on water storage for hydroelectricity generation

The study area is not situated within any SEPA designated Surface Water Drinking Water Protected Areas (DWPAs). This is confirmed by the Scottish Government Drinking Water Protected Areas (surface water) dataset[98].

The entire study area lies within the Northern Highlands groundwater DWPA, as shown within the Scottish Government Drinking Water Protected Areas (groundwater) dataset[99]. As discussed below, the Northern Highlands groundwater body is classified by SEPA as having an overall status of 'Good'[87].

[98] Scottish Government (2014), Drinking Water Protected Areas - Scotland River Basin District – Surface Water Map 8. Available online at: https://www.gov.scot/binaries/content/documents/govscot/publications/map/2014/03/drinking-water-protected-areas-scotland-river-basin-district-maps/documents/surface-water-maps/d2b5da2e-32d1-4b5d-afe1-da1b06686e07/d2b5da2e-32d1-4b5d-afe1-da1b06686e07/govscot%3Adocument/DWPA%2B-%2BScotland%2BRBD%2B-%2Bsurface%2Bwater%2B-%2Bmap%2B8%2Bof%2B22.pdf (Accessed December 2024)

[99] Scottish Government (2014), Drinking Water Protected Areas - Scotland River Basin District – Groundwater Map 19. Available online at: https://www.gov.scot/binaries/content/documents/govscot/publications/map/2014/03/drinking-water-protected-areas-scotland-river-basin-district-maps/documents/groundwater-maps/6d676760-8be5-412d-a538-c21a9644a955/6d676760-8be5-412d-a538-

The SEPA Flood Risk Maps shows that there is a High Likelihood (1 in 10 year (10%) annual probability) of fluvial flooding posed within the Proposed Development boundary from the Allt Coire Mhuilidh, Allt a Mhuilinn, and Black Water rivers (**Figure 9.4**). These watercourses cross the Proposed Development, however, these indicative flood extents are localised in extent and do not extend significantly beyond the banks of the watercourse. The SEPA Flood Risk Maps show the Proposed Development is not at risk of tidal (coastal) flooding, groundwater flooding, or surface water flooding. There are small areas of surface water flooding within the wider Study Area, associated with low lying field drains, however these do not cross the Proposed Development.

Existing information on private water supplies (PWS) within the study area was provided by The Highland Council[100]. There are six PWSs within 250 m of the Proposed Development including: Silverbridge Tigh Fiodha, Silverbridge Toilets, Strathmore House, Corriemoillie Farm, Corriemoillie Lodge, and Corriemoillie Sub-station. These are illustrated in **Figure 9.5**. As the Proposed Development is within 250 m of these PWS, they may require further qualitative assessment in the EIAR through a PWS Risk Assessment. Groundwater fed PWSs will be assessed in accordance with SEPA Guidance[101]

The hydrogeology underlying the Proposed Development is the Morar Group which is classified as a Class 2C low productivity aquifer: "*flow is virtually all through fractures and other discontinuities*"[102]. The Proposed Development is underlain by the Old Red Sandstone North groundwater body and the Northern Highlands groundwater body which are classified by SEPA as having an overall status of 'Good'[103] **(Figure 9.6).**

As discussed in **Chapter 5**, the alignment crosses ancient woodland of semi-natural origin with low biodiversity value species present (a mix of young conifers and beech), grassland and blanket bog habitats which may include Annex 1 and Groundwater Dependant Terrestrial Ecosystems (GWDTE) habitats. Changes to water quality and quantity as a result of construction activities have the potential to compromise the integrity of Annex 1 habitats, including GWDTEs. The ecology team will conduct NVC surveys indicating if GWDTEs are present on site which inform the assessment of the hydrological function of the GWDTEs, in accordance with SEPA Guidance[104]. If they are, a hydrological assessment of these habitats may be required to establish their groundwater dependency, the potential for significant impacts, and appropriate mitigation.

9.2.4 Statutory Designations

There are no statutory designated areas relating to geology, peat, soils, hydrology, and hydrogeology within the study area.

9.3 Sensitive Receptors

The main receptors which could be potentially affected by the Proposed Development are assessed at this stage to be:

- Peat and carbon-rich soils;

c21a9644a955/govscot%3Adocument/DWPA%2B-%2BScotland%2BRBD%2B-%2Bgroundwater%2B-%2Bmap%2B19%2Bof%2B22.pdf (Accessed December 2024)

[100] The Highland Council (THC) (2016) Private Water Supplies [online] Available at: Private Water Supplies | Private Water Supplies | Highland Council Open Map Data (arcgis.com) (Accessed: December 2024)

[101] SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Abstractions [Online] Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fijwd3q0y%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-abstractions.docx%23%3A~%3Atext%3DQualitative%2520assessment%2520of%2520the%2520potential%2Creversibility%2520of%2520any%2520potential%2520impacts.&wdOrigin=BROWSELINK (Accessed: March 2025)

[102] BGS (2024) Hydrogeology 625K digital hydrogeological map of the UK [online] Available at: https://www.bgs.ac.uk/datasets/hydrogeology-625k/ (Accessed: December 2024)

[103] The Scottish Government (2023) SEPA Classification [online] Available at: https://map.environment.gov.scot/sewebmap/ (Accessed: December 2024)

[104] SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems [Online] Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.sepa.org.uk%2Fmedia%2Fi2cnr03k%2Fguidance-on-assessing-the-impacts-of-developments-on-groundwater-dependent-terrestrial-ecosystems.docx&wdOrigin=BROWSELINK (Accessed: March 2025)

- Surface waterbodies;
- Groundwater DWPAs;
- PWS; and
- GWDTEs.

9.4 Issues Scope Out

Assessment of potential effects on the following receptors will be scoped out:

- Impacts relating to contaminated land as, based on the current and historic land uses across the Proposed Development, it Is not considered that contaminated land is present;
- Risks relating to historic coal mining activities due to the absence of coal mining across the Proposed Development; and
- Flood risk. It is assumed wood poles will be located outwith the indicative SEPA flood extents, and any new watercourse crossings would be designed to accommodate the appropriate flows, plus climate change allowance, during the detailed design stage. In addition, changes to run-off as a result of the wood poles is not anticipated to impact flood risk, and any felling (keyhole approach) is assumed to be negligible on a catchment scale. Therefore, a detailed flood risk assessment is not considered to be required.
- Designated hydrological receptors which are not hydrologically connected will not require addition assessment.

9.5 Potential Significant Effects

The main aspects of the Proposed Development that could lead to geological or hydrological impacts during construction are as follows:

- Chemical pollution and sedimentation of watercourses and the wider hydrological environment as a result of construction works, including excavations, which could impact water quality;
- Pollution from construction vehicles or plant onsite impacting water quality;
- Acidification of watercourses as a result of construction works and related tree felling;
- Modifications to groundwater conditions, including levels and flows, which may cause alteration to receptors such as GWDTE or groundwater-fed PWS;
- Alterations to flow pathways, water quality, and / or impediments to watercourses from shallow foundations, dewatering, and excavation works across the study area impacting habitats, PWS, and river flows;
- Impacts on DWPA catchments and PWS both in terms of water quality, quantity, and security of supply;
- Potential for peat destabilisation and peat slide risk;
- Potential for the loss and compaction of peat or soils;
- Potential effects relating to peat disturbance and the subsequent effects from excavated peat and management of peat and peaty soils; and
- Compaction of soils and superficial deposits and reduction in ability of such deposits to store water.

No long-term effects are anticipated during the operational phase. Impacts from the above activities will not necessarily lead to significant effects, considering the application of good practices and mitigation measures to be included in design.

9.6 Assessment Methodology

The EIA will assess the potential impacts on hydrology, hydrogeology, and geology associated with the Proposed Development and any ancillary works such as access tracks and construction compounds where relevant. It will also identify any requirements for construction mitigation measures.

The significance of the impacts upon the baseline environment will be defined as a function of the sensitivity of receptors and the magnitude of change. The impact assessment will be undertaken in accordance with the EIA Regulations[105].

The following assessments may be required in the overall assessment of geology, hydrology, and hydrogeology:

- PWS Assessment: is required where groundwater fed PWSs are within 250 m of the Proposed Development or the Proposed Development is within the hydrological catchment of a surface water fed PWS. The assessment will determine if the Proposed Development is likely to change the quality, quantity, and/or continuity of water at the PWS and will demonstrate how the PWS will be protected. Any groundwater fed PWS will be assessed in accordance with SEPA Guidance[101]
- GWDTE Assessment: based on NVC mapping to be undertaken by the ecologists, the presence of moderate or high GWDTE within the study area will be determined. If these are located within 250 m of the Proposed Development additional analysis may be undertaken to define whether these habitats are truly groundwater dependent, if they will be impacted by the Proposed Development, and how the GWDTEs would be protected in line with SEPA Guidance[104].
- Watercourse Crossing Assessment: if new access tracks are to be constructed and which will require new watercourse crossings, further assessment may be carried out to survey the proposed crossing locations, identify the type of crossing, and level of CAR authorisation required, and how any potential adverse impacts to watercourses will be mitigated.
- Peat Landslide Hazard and Risk Assessment (PLHRA): will be undertaken in accordance with the Scottish Government 'Peat Landslide Hazard & Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments'[106].The assessment will be informed through collection of peat depth data, site walkover and a detailed geomorphological mapping and terrain classification. The assessment will utilise both qualitative and quantitative analyses and consider the likelihood of peat instability, associated consequences and mitigation measures appropriate to calculate risk levels.
- Outline Peat Management Plan (oPMP): will be prepared in accordance with Scottish Renewables and SEPA guidance 'Developments on Peatland - Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste'[107].The PMP will be informed by recorded peat depth probing data, an assessment of estimated excavated peat volumes and by a full site appraisal of potential re-use opportunities (e.g. mapping of drainage ditches, peat cuttings and landscaping requirements associated with infrastructure). Where opportunities are identified to integrate the PMP with wider environmental enhancement measures, for example for peat restoration, the PMP details the volume and type of peat (acrotelm / catotelm) to be used for this activity.

[105] The Scottish Government (2017) Part 4 of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 [online]. Available at: https://www.legislation.gov.uk/ssi/2017/101/part/4 (Accessed: February 2025).

[106] The Scottish Government (2017) Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments [Online]. Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2017/04/peat-landslide-hazard-risk-assessments-best-practice-guide-proposed-electricity/documents/00517176-pdf/00517176-pdf/govscot%3Adocument/00517176.pdf (Accessed December 2024)

[107] Scottish Renewables & SEPA (2012) Developments on Peatland - Guidance on the assessment of peat volumes, re-use of excavated peat and the minimisation of waste. Available at: Guidance+on+the+assessment+of+peat+volumes%2C+reuse+of+excavated+peat%2C+and+the+minimisation+of+waste.pdf (Accessed December 2024)

- Carbon Assessment: will be undertaken in line with the Peatland Carbon Code[108] and the NPF4[5] Policy 5 to assess the potential effects of the Proposed Development in relation to peatland disturbance.

9.7 Summary

SSEN Transmission will provide an EIAR which will include a standalone chapter to assess potential significant effects related to Hydrology, Hydrogeology, Geology and Soils which will define the sensitivity of receptors, potential effects, and significance of impacts in accordance with the EIA Regulations.

The sensitive receptors are considered to be surface waterbodies, Groundwater DWPAs, PWSs, GWDTEs, and peat and carbon rich soils. Technical appendices to the chapter could include a PWS Assessment, GWDTE Assessment, Watercourse Crossing Assessment, Peat Landslide Hazard and Risk Assessment (PLHRA) and an Outline Peat Management Plan (oPMP).

[108] International Union for the Conservation of Nature (ICUN) (2023). Peatland Carbon Code. Available at: https://www.iucn-ukpeatlandprogramme.org/peatland-code-0

10. NOISE AND VIBRATION

10.1 Introduction

This chapter provides a brief overview of the noise and vibration baseline conditions, the potential effects associated with the construction and operation of the Proposed Development and the proposed scope of assessment methodology to be considered in the EIA Report.

10.2 Baseline Conditions

The Proposed Development is located within a predominantly rural area. The exact alignment is not known at time of writing, but the main areas within the vicinity of the Proposed Development include (from east to west) Garve, Little Garve, Gorstan, Corriemoillie and Lochluichart.

10.3 Sensitive Receptors

There are no sensitive receptors identified along the Proposed Development as any nearby noise sensitive receptors are at least 300 m away from the Proposed Development.

10.4 Potential Significant Effects

At this preliminary stage, possible effects associated with construction and operation of the Proposed Development include:

- noise during the construction phase; and
- noise due to construction traffic.

OHL noise is generally associated with a phenomenon known as “corona discharge”. This is essentially a limited electrical breakdown of the air which, in the main, occurs during damp weather. Corona discharge will create a source of audible noise (a crackling sound occasionally accompanied by a low frequency hum in certain wet conditions). Power transmission line conductors are designed to minimise corona discharge, but this may be affected by minor surface irregularities caused by damage, insects, raindrops, or pollution. The highest noise levels generated by an OHL usually occur during light rain when water droplets, collecting on the surface of the conductor, can initiate corona discharge. The number of droplets that collect, and hence the amount of noise, depends on the rate of rainfall.

There is the potential for construction noise from static, quasi static and mobile plant items including;

- tree felling equipment such as woodchippers, chainsaws and harvesters;
- excavators, delivery of materials with lorries / dumper trucks;
- installation of temporary access tracks; and
- installation of and stringing of electricity wooden poles.

10.5 Assessment Methodology

10.5.1 Operational Noise

Planning Advice Note (PAN) 1/2011: ‘Planning and Noise’

Published in March 2011, this document provides advice on the role of the planning system in helping to prevent and limit adverse effects of noise (Scottish Government, 2011). Information and advice on noise assessment methods are provided in the accompanying Technical Advice Note (TAN): Assessment of Noise. Included within the PAN document and the accompanying TAN are details of the legislation, technical standards, and codes of practice for specific noise issues.

Neither PAN 1/2011 nor the associated TAN provides specific guidance on the assessment of noise from fixed plant, but the TAN includes an example assessment scenario for 'New noisy development (incl. commercial and recreation) affecting a noise sensitive building', which is based on British Standard (BS) 4142:1997: Method for rating industrial noise affecting mixed residential and industrial areas. This British Standard has been replaced with BS 4142:2014: Methods for rating and assessing industrial and commercial sound.

British Standard 4142:2014+A1:2019: Methods for rating and assessing industrial and commercial sound (BS 4142)

British Standard 4142 describes methods for rating and assessing the following:

- Sound from industrial and manufacturing processes.
- Sound from fixed installations which comprise mechanical and electrical plant and equipment.
- Sound from the loading and unloading of goods and materials at industrial and / or commercial premises.
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train movements on or around an industrial and / or commercial site.

The methods use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes upon which sound is incident.

In accordance with the assessment methodology, the specific sound level (LAeq,T) of the noise source being assessed is corrected, by the application corrections for acoustic features, such as tonal qualities and / or distinct impulses, to give a "rating level" (LAr,Tr).The British Standard effectively compares and rates the difference between the rating level and the typical background sound level (LA90,T) in the absence of the noise source being assessed.

The British Standard advises that the time interval ('T') of the background sound measurement should be sufficient to obtain a representative or typical value of the background sound level at the time(s) when the noise source in question is likely to operate or is proposed to operate in the future.

Comparing the rating level with the background sound level, BS 4142 states:

- "Typically, the greater this difference, the greater the magnitude of impact.
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context."

TGN(E)322 – Operational Audible Noise Assessment Process For Overhead Lines

The National Grid has derived a procedure to assess the impact of OHL noise in both dry and rainy conditions. The guidance of the British Standard BS 4142: 2014 can also be used to assess the impact of the noise from a specific industrial source at NSRs.

The procedure requires a series of assessments are conducted in tiers. Tier 3 requires that the background noise (BGN) at NSRs within a set distance from the OHL be measured during quiet night times and in dry conditions with little wind. The nature of the ground surface around the sensitive receptors is noted so that the contribution to BGN of the surface noise attributable to the rainfall can be derived from empirically derived

curves (Miller curves). The logarithmic sum of the measured BGN and the empirically derived contribution for rainfall is adopted as the BGN level, in rainy conditions, against which to compare the predicted received noise from the OHL. Using the parameters provided in TGN(E)322 the likelihood of an adverse impact can be assessed.

The assessment procedure follows TGN(E)322, and include the following stages:

- The outcome of the Tier 1 assessment will determine whether the 'worst case' wet noise impact is predicted to be acceptable, or whether further assessment is required.
- The outcome of the Tier 2 assessment will determine whether the combined wet and dry noise impact is acceptable, or whether further assessment is required.
- The outcome of the Tier 3 assessment will determine whether the noise impact is acceptable, whether the noise needs to be mitigated and minimized or whether the noise is unacceptable.
- The Tier 3 assessment takes account of existing background sound levels in the area and noise levels due to rainfall.

A Tier 1 assessment has been conducted and concluded that the worst-case wet noise levels of the overhead line at each receptor was significantly below the 34 dB limit. The magnitude of the impact of the operational noise is predicted to be negligible. Therefore, there is no requirement to proceed to a Tier 2 assessment.

Therefore, operational noise from the Proposed Development can be scoped out.

10.5.2 Construction Plant Noise

British Standard 5228-1:2009 +A1:2014 (BS5228), Code of Practice for Noise and Vibration Control on Construction and Open Sites

Guidance on the prediction and assessment of noise and vibration from construction sites is provided in BS 5228 2009 +A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise. BS5228-1 provides recommended limits for noise from construction sites.

Construction Traffic Noise

Proxy locations representative of those which would experience an increase in traffic flow of 18% or greater would be identified for further assessment. Changes in operational traffic noise associated with the Proposed Development would be assessed using the calculation method outlined in CoRTN. Impacts would be classified in accordance with the thresholds defined in Design Manual for Roads and Bridges Volume 11, Section 3, 'Part 7: Noise and Vibration'.

A draft Construction Noise Management Plan would be provided within the CEMP.

10.6 Mitigation

As part of the impact assessment process, mitigation measures may be identified to reduce the level of predicted noise impacts, particularly where this is necessary to avoid significant adverse effects. Two types of measure can be distinguished, as follows:

- mitigation measures, aimed at managing potential impacts of moderate or major significance to reduce residual effects to an acceptable level; and
- measures including adoption of good practice aimed at managing potential effects of minor significance.

10.6.1 Mitigation During Design

The type of conductor used and the alignment of the OHL is intended to consider potential noise impacts, and avoid potential adverse impacts where possible.

There is no method for the prediction or assessment of potential aeolian noise impacts. Therefore, aeolian noise should be anticipated and mitigated in the design of the Proposed Development. A proactive approach to mitigation must be taken.

10.6.2 Mitigation During Construction

The felling works of the Proposed Development have the potential to cause impacts, however, effects would be temporary. British Standard (BS) 5228 2009 +A1:2014 provides recommended limits for noise from construction sites to meet a maximum 65 dB limit at receptors. The mitigation required would likely involve restricting the working hours to daytime weekdays.

Even if the construction noise limit is met, it is best practice that construction noise should continue to be controlled with a Construction Noise Management Plan (CNMP). In accordance with the guidance and procedures outlined in BS 5228-1 a CNMP may include:

- minimising the noise as much as is reasonably practicable at source.
- attenuation of noise propagation.
- carrying out identified high noise level activities at a time when they are least likely to cause a nuisance to residents.
- providing advance notice of unavoidable periods of high noise levels to residents.

In order to maintain low impact on the noise environment, consideration will be given to attenuation of construction noise at source by means of the following:

- giving due consideration to the effect of noise, in selection of construction methods.
- avoidance of vehicles waiting or queuing, particularly on public highways or in residential areas with their engines running.
- scheduling of deliveries to arrive during daytime hours only wherever possible. Care should be taken to minimise noise while unloading delivery vehicles. Delivery vehicles should follow routes that minimise use of residential roads.
- ensure plant and equipment are regularly and properly maintained. All plant should be situated to minimise sufficiently noise impact at nearby properties.
- fit and maintain silencers to plant, machinery, and vehicles where appropriate and necessary.
- operate plant and equipment in modes of operation that minimise noise, and power down plant when not in use.
- use electrically powered plant rather than diesel or petrol driven, where this is practicable.
- working typically will not take place outside of hours defined in the construction schedule.

Consideration will be given to the attenuation of construction noise in the transmission path by means of the following:

- locate plant and equipment liable to create noise as far from noise sensitive receptors as is reasonably practicable or use natural land topography to reduce line of sight noise transmission.
- noise screens, hoardings and barriers should be erected where appropriate and necessary to shield high-noise level activities.
- provide lined acoustic enclosures for equipment such as static generators and when applicable portable generators, compressors and pumps.

In setting working hours, consideration is given to the fact that the level of noise through the normal working day is more easily tolerated than during the evening and night-time. As the work is short term in nature, working can continue into the evenings, as long as the noise limits are adhered to.

10.6.3 Mitigation During Operation

If mitigation is required during operation of the Proposed Development, the first stage would be to change the source of noise, the conductor, to a lower noise conductor that still fulfils the power transfer requirements of the overhead line. If the conductor type cannot be changed, then conductors can be aged or bead-blasted to reduce noise at the source.

10.7 Issues Scoped Out

Construction activities and traffic, have the potential to cause noise and vibration impacts on NSRs during the construction phase. A CNMP will be necessary to mitigate any predicted effects, which could include measures such as limiting working hours. Despite the uncertainties around OHL alignment and siting of poles and conductors at this stage, it is proposed that noise and vibration effects during construction and operation are not included in the EIAR.

There are no known vibrational noise issues associated with the operation of the Proposed Development at nearby NSRs. As noted above, commissioned OHL does not produce vibration effects as part of operation; hence operational vibration is scoped out of the assessment.

The sections below provide the rationale for excluding noise effects from the EIAR.

- Any operational maintenance works required will be short-term and intermittent and are not expected to give rise to significant effects relating to noise and vibration. Therefore, this topic is proposed to be scoped out of the EIA.
- Construction noise and vibration would be short term and intermittent and could be controlled through the implementation of a noise management plan, which would be developed as part of the CEMP prepared by the Principal Contractor. As such and given the remoteness of construction activity for much of the project, no detailed assessment of construction noise and vibration associated with plant noise or traffic is proposed as part of the EIA.
- NSRs experiencing traffic increases of less than 18% will not experience adverse impact and therefore require no further assessment.
- There are no potential effects from vibration and thus this topic is scoped out of further assessment.
- Operational noise has been scoped out due to not passing the threshold for further study at Tier 1 of TGN(E)344.

10.8 Summary

There are no potential significant effects from operational noise and vibration and therefore this topic has been scoped out of further assessment and will not be included in the EIA Report.

11. LAND USE AND AMENITY

11.1 Introduction

This Scoping chapter will assess the potential impacts on sensitive receptors resulting from the construction and operation of the Proposed Development. The local conditions relating to land use and recreation directly within and adjacent to the Proposed Development will be assessed.

11.2 Baseline Conditions

11.2.1 Agriculture

Within the Proposed Development, the land capability for agriculture (LCA) rating is between 5.3 and 7.2.

11.2.2 Recreation

The Proposed Development runs adjacent to two core paths; these are the Silverbridge Circuit and Tor Breao. There are no national cycle paths within or adjacent to the alignment.

The Black Water Falls recreational feature is located approximately 0.5 km from the nearest OHL section of the Proposed Development. The OHL alignment may potentially be visible to visitors to Black Water Falls.

The local conditions relating to socio-economics, land use and recreation will be assessed, particularly those directly within and adjacent to the Proposed Development. A desk study will be undertaken to gather socio-economic data (population characteristics, employment, etc.) and tourism industry related data (existing infrastructure, housing, recreation, services, transport, etc.). The desk study will be supplemented by a site visit. The socio-economic elements will be discussed in **Chapter 15: Socio-economic and Tourism.**

11.3 Sensitive Receptors

The Proposed Development will impact the two core paths, the Silverbridge Circuit and Tor Breao.

11.4 Issues Scoped Out

Regarding land use specifically, no likely significant effects are predicted as a result of the Proposed Development and therefore an assessment on land use (with the exception of forestry) is proposed to be scoped out of the EIAR in its entirety.

11.5 Potential Significant Effects

On the basis that the agricultural land within the Proposed Development is of low sensitivity and that only a small proportion of the area of the Proposed Development (access tracks and wood pole locations) would be affected, the Proposed Development is unlikely to result in significant effects. The construction work may result in some temporary loss of land or access restriction; however, this will be managed through wayleave agreements with the relevant landowners. The permanent loss of land to wood pole locations would be negligible, and it would remain possible for grazing to continue around and under them during their operational lifetime.

Potential effects may include:

- Effects on the local and national economy through job creation and investment throughout construction, operation and decommissioning of the Proposed Development;
- Effects on the local tourism industry and recreation activities including walking, cycling and angling;
- Effects related to the alteration of land use within the Proposed Development area; and
- Effects on recreational receptors would concern walkers on the core paths. However, the Proposed Development is unlikely to compromise the recreational amenity of the core paths in the area.

11.6 Assessment Methodology

The assessment process will identify the key constraints to the Proposed Development. This will include areas of specific tourism value both regional and national, routes designated by SUSTRANS and land designated by the National Trust.

Local constraints such as picnic areas, community facilities, play parks and lochs and watercourses used for recreation, will also be included. Local businesses will be identified including business parks, industrial estates and agricultural businesses. Land identified by the council for strategic development will also be included within the baseline.

The assessment will analyse the effects of the Proposed Development on the local and national economy. This will include how the Proposed Development would contribute to investment and jobs both during construction, operational and decommissioning phases. Effects on land use will be assessed, together with any alterations to access and visual impacts (in coordination with the landscape and visual assessment). There are no guidelines for significance, magnitude or sensitivity of receptors; however appropriate criteria will be utilised within the EIAR based on the guidance and the judgement of the assessor.

11.7 Summary

SSEN Transmission will provide an EIAR which will include a standalone chapter to assess potential significant effects related to Land Use and Amenity which will define the sensitivity of receptors, potential effects, and significance of impacts in accordance with the EIA Regulations.

12. CLIMATE CHANGE AND CARBON BALANCE

12.1 Introduction

This chapter of the Scoping Report considers the potential effects of the Proposed Development with respect to climate change. The assessment has been undertaken in line with the EIA Regulations which require, to the extent relevant to the specific characteristics of the development and to the environmental features likely to be affected, *"A description of the likely significant effects of the development on the environment resulting from, inter alia: (f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change".*

Climate change is a relatively new topic in EIA. Guidance is evolving and there is no prescribed way in which climate change should be incorporated. However, this scoping assessment has been carried out in accordance with the principles contained in the following documents:

- Institute of Environmental Management and Assessment (IEMA) (2022) Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance[109]; and
- Institute of Environmental Management and Assessment (IEMA) (2020) Guide to Climate Change Resilience & Adaptation[110].

Climate change interacts with a range of other environmental and social factors and the approach to the EIA will take account of future climate changes as part of the consideration of the future baseline condition for other environmental topics, and how these might interact with the potential impacts of the Proposed Development.

12.2 Baseline Conditions

12.2.1 Life cycle/embodied carbon

Carbon in materials and components for OHLs is acknowledged in NPF4 as requiring consideration for adverse climate effects. However, the carbon quantum embedded into materials and components associated with the infrastructure is not predicted to be significant in relation to the carbon saving, because of the carbon reduction targets the Proposed Development would facilitate at a national level. The priority is therefore to ensure that the carbon embodied in the Proposed Development would be minimised as far as possible (as NPF4 Policy 2a requires) through commitments in relation to activities such as re-use, recycling of materials, circular economy principles, supply chain procurement requirements in contracts and adoption of low carbon construction methodologies. This will also support demonstration of compliance with the principles of NPF4 Policy 12 (Zero Waste).

12.2.2 Land use change carbon

Impacts from loss or damage to peatlands and/or from extensive loss of woodlands are also acknowledged in NPF4 climate change assessment as having some potential for adverse climate effects, although these were typically evaluated at the strategic level as being likely to be 'negligible'. While it is acknowledged that NPF4 Policy 5d (iii) indicates a requirement for an assessment of net climate effects, it also acknowledges the

[109] Institute of Environmental Management and Assessment (IEMA) (2022) Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance (2nd Edition). Available at: https://www.iema.net/resources/blog/2022/02/28/launch-of-theupdated-eia-guidance-on-assessing-ghg-emissions

[110] Institute of Environmental Management and Assessment (IEMA) (2020) Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation. Available at: https://www.iema.net/resources/reading-room/2020/06/26/iema-eia-guide-to-climate-changeresilience-and-adaptation-2020

process that should be followed to avoid and reduce effects on peatland through design and by following the mitigation hierarchy.

12.3 Sensitive Receptors

The assessed receptor is the global atmosphere since GHG emissions are not geographically limited. Therefore, all emissions have a global effect rather than directly affecting any specific local receptor(s).

The receptors used when considering the impact of climate change on the predicted effects of the Proposed Development (in combination climate assessment) are consistent with those potentially subject to significant effects defined in each relevant topic chapter of the EIAR. The assessment considers the influence of climate change and project-related impacts on the identified receptors in each of the key environmental assessments.

At this stage, identified potential receptors include:

- Environmental receptors (e.g. habitats and species);
- Infrastructure receptors (including infrastructure materials, equipment, and infrastructure operations/processes); and
- Human and population receptors (e.g. road users, construction workers, employees).

The receptor in terms of project resilience to climate change will be the Proposed Development itself, specifically the OHL infrastructure including wood poles, conductors, earth wires and insulators.

12.4 Issues Scoped Out

It is proposed that an assessment of life cycle/embodied carbon is scoped out of the EIA Report as it has been demonstrated through the Integrated impact assessment produced for NPF4 that *"the lifecycle greenhouse gas emissions assessment concludes this development will likely have an overall net positive impact on achieving national greenhouse gas emissions reduction targets"*[111]. This is because of the role that renewable energy, and the necessary transmission infrastructure, provides in meeting the national greenhouse gas emission reduction targets.

12.5 Potential Significant Effects

The construction and operation of Proposed Development has the potential to result in the following types of effects:

The generation of direct and indirect GHG emissions, including:

- Emissions from embodied carbon and energy used in the processing, manufacturing and installation of transmission assets (materials and components), principally carbon dioxide (CO_2);
- Emissions arising from land use change during construction (typically nitrogen oxides (NO_x) and CO_2);
- CO_2 and NO_x arising from road traffic, and construction and installation activities associated with combustion of fossil fuels, during the OHL construction process; and
- CO_2 and NO_x emissions from transport, maintenance activities and the consumption of materials required for maintenance activities during operation.

[111] Scottish Government (2022). National Planning Framework 4 Research Project: Lifecycle Greenhouse Gas Emissions of NPF4 Proposed National Developments Assessment Findings. Available at: https://www.gov.scot/binaries/content/documents/govscot/publications/impact-assessment/2022/11/nationalplanning-framework-4-lifecycle-greenhouse-gas-emissions-npf4-proposed-national-developments-assessment-findings/documents/national-planningframework-4-research-project-lifecycle-greenhouse-gas-emissions-npf4-proposed-national-developments-assessment-findings/national-planning-framework-4-research-project-lifecycle-greenhouse-gas-emissions-npf4-proposed-national-developments-assessment-findings/govscot%3Adocument/national-planningframework-4-research-project-lifecycle-greenhouse-gas-emissions-npf4-proposed-national-developments-assessment-findings.pdf

Potentially significant effects are considered regarding the 'in-combination' impacts of climate change acting on environmental receptors together with the potential significant effects of the Proposed Development (as assessed by other topic specialists), which could give rise to an exacerbation of the predicted effects on the relevant receptors. The potential for these effects has been considered in relation to each key topic of the EIA.

The Proposed Development will also be vulnerable to climate change, particularly in relation to extreme weather events such as flooding, extreme heat, and storms to which the OHL towers and conductors would be exposed.

12.6 Assessment Methodology

In the context of EIA therefore, mitigation should be considered in determining whether the effects of OHLs on peatlands would be significant. These will include demonstration of the process to avoid peat through design and siting/alignment and (as the NatureScot peatland guidance identifies) securing the production of relevant plans such as CEMPs, Habitat Management Plans and SPMPs. Further compensatory measures such as woodland planting and/or peatland restoration also provide opportunities to create carbon sequestering habitats, and these will be considered within the relevant technical chapters on Forestry and Water and Geological Environment where relevant.

12.7 Summary

Although the design process has sought to avoid peatland wherever possible, there are some small areas within the Proposed Route where there are nationally important carbon-rich soils, deep peat or priority peatland habitat. A peatland carbon emission assessment will therefore be undertaken in line with the Peatland Carbon Code[112] and the NPF4 Policy 5 to assess the potential effects of the Proposed Development through peatland disturbance. This assessment will utilise the peat depth and condition survey data (probing and coring) collected in accordance with Scottish Government Peat Survey guidance; further information is presented in Section 10 Water and Geological Environment.

This chapter has set out the findings of a scoping assessment of the potentially significant effects of the Proposed Development on climate taking account of the strategic climate change assessment reported for NPF4. It is not predicted that there would be significant environmental effects on climate mitigation and this aspect is scoped out of further assessment in the EIA, although relevant mitigation measures will be incorporated within the EIAR to set out SSEN Transmission's commitments to sustainability and emissions reduction in delivery of transmission infrastructure.

[112] International Union for the Conservation of Nature (ICUN) (2023). Peatland Carbon Code. Available at: https://www.iucn-ukpeatlandprogramme.org/peatland-code-0

13. TRAFFIC AND TRANSPORT

13.1 Introduction

This chapter of the Scoping Report assesses the potential effects on the existing transport network and on sensitive receptors due to the construction and operation of the Proposed Development. Vehicle movements to the site will consist of heavy goods vehicles (HGVs), light goods vehicles (LGVs) and cars. No abnormal load vehicles are anticipated.

13.2 Study Area

The study area for access, traffic and transport has been defined as the local public road network which will most commonly be used for access by traffic generated by the Proposed Development. The road network anticipated to be included in the study area are the A9 (T), A832 and the A835 which provides access to the settlement of Contin and Garve located to the southeast of the Proposed Development. These communities include residential and non-residential properties. There are no local amenities directly fronting the A9 (T); however, there are some along the A835 and the A832. It is acknowledged that the A835 and A832 is a well-established tourist route in the region, and sections of the A835 through Garve and Contin is popular with tourists.

Construction traffic associated with the Proposed Development would generally approach from the east from the A9 (T) via the roads highlighted above. Access to the construction works area will be achieved from the existing Corriemoillie Substation junction off the A832 and the proposed Carn Fearna Wind Farm access junction off the A835.

13.2.1 A9

The A9 (T) forms part of the strategic trunk road network which connects Perth to Scrabster. The road is operated on behalf of Transport Scotland by is Bear Scotland with no posted weight limits. The A9 (T) is mostly a two-way single carriageway with sections of dual carriageway along the route. There is a varying speed limit ranging from 30 miles per hour (mph) in sections through settlements, up to the national speed limit (60 mph) in more rural sections. The A9 (T) is unlit and has no footway provision except in instances where the route goes through towns and villages where footways and / or street lighting is present. A route of this type and size has a capacity of 57,600 vehicle movements per day (or 28,800 every 12 hours)[113].

13.2.2 A835

The A835 forms part of the strategic trunk road network and runs in a northeast - southwest direction from Ullapool to Inverness and the A9(T) via Garve and Contin. The A835 is a good standard single carriageway with varying speed limit ranging from 30 mph in sections through settlements, up to the national speed limit (60 mph) in more rural sections. The A835 is proposed to provide access to the proposed Carn Fearna Wind Farm. A road of this type and size typically has a capacity of 43,200 vehicle movements per day (or 21,600 every 12 hours)[113113].

13.2.3 A832

The A832 is a road linking Cromarty, on the east coast, to Gairloch on the west coast. The A832 is a single carriageway road with a speed limit of 60 mph, operating through forested and coastal regions. The A832 provides access to the existing Corriemoillie Substation, therefore it is assumed the route has previously been utilised by HGV traffic during the construction of the substation. The A832 is rural in nature, is unlit and has no footway provision except in instances where the route goes through towns and villages where footways and / or

[113] Standards for Highways (2013) Volume 15, Economic Assessment of Road Schemes in Scotland, DMRB.

street lighting is present. It is designed to accommodate a capacity of 43,200 vehicle movements per day (or 21,600 every 12 hours)[113][113].

13.2.4 Non-motorised User Network

Two core paths are located within and cross the Proposed Development, these are Silverbridge Circuit and Tor Breac. As noted above, there is generally no footway provision along the key road links within the study area, and the impacted sections of the road are generally unlit except when passing through Contin and Garve. A review of Sustrans' National Cycle Network (NCN) map indicates that there are no national cycle routes in the vicinity of the Proposed Development, however there a number of local cycle paths (off-road and sections of on road facilities) near Contin and Garve for cyclists doing the North Coast 500.

13.3 Baseline Traffic Flows

Traffic flow data for the road sections that may be affected by the Proposed Development has been obtained from count point data available from the Department for Transport (DfT)[114] traffic count data site. The Annual Average Daily Flow (AADF) data collected for 2023 within the vicinity of the Proposed Development Area is summarised in **Table** 13.1.

Table 13.1 Existing Annual Average Daily Flow (2023)

Road/ Location	Total AADF	HGV AADF	HGV% of Total AADF
A835 East of Tarvie, DfT Point ID 30800	4,045	257	6.4%
A832 near Achanalt, DfT Point ID 40933	1730	126	7.2%

13.4 Potential Environmental Effects

It acknowledged that at this stage, details of the construction equipment and materials, including wood poles and OHL equipment, deliveries of machinery and supplies such as, cabling, geotextiles and crushed rock is yet to be determined. However, it is known that the material requirement for the installation of wood poles is relatively minor as the poles required would be driven into the ground, self-supporting, and without the need for concrete foundations.

Due to the prior access to the site by the existing Corriemoillie Substation access junction off the A832, it is not considered necessary to amend or upgrade any public roads or associated infrastructure, including the creation of bell mouth junctions. The proposed Carn Fearna Wind Farm Substation will require a new access track and associated junctions, all in accordance with the Wind Farm developers' proposals. In addition, the design will ensure that existing forestry access tracks can be used as far as possible with the use of temporary tracks to access specific tower locations if required.

Taking the above points into account, it is considered that the traffic generation of the Proposed Development construction phase is relatively minor. Based on the technical specifications available and the use of typical vehicle numbers from recent SSEN Transmission projects (of similar scale) in terms of construction phase delivery vehicle movements, it is estimated that the peak traffic generation may be around 20 HGV two-way movements per day (10 in and 10 out) accessing the site from the A9 and then via either the A832 or A835.

This number of vehicles, when compared against the baseline traffic flows in **Table** 13.1 will lead to a temporary increase of circa 1% on the A835 and A832 respectively during the construction period. This increase is not considered to represent a significant increase on the A835 and A832 as the magnitude of the predicted increase is low in absolute terms and is not anticipated to cause a disruption to the current traffic flow.

Furthermore, it should be noted that deliveries associated with HGV movements will be distributed throughout the working day. Therefore, this temporary change in traffic volume on routes approaching the Proposed

[114] UK Government, Department for Transport, Road Traffic Statistics. Available at: https://roadtraffic.dft.gov.uk/#14/57.6110/-4.7013/basemapcountpoints. [Accessed: April 2025]

Development is expected to be not significant. It is therefore proposed that the assessment of construction phase of the Proposed Development is scoped out of the EIA assessment.

13.5 Mitigation

A summary of the proposals to mitigate the effects of the construction of the Proposed Development, which can be adopted to reduce the likely significant effects of the Proposed Development, is outlined below. It is anticipated that these measures will be included as part of a Construction Traffic Management Plan (CTMP) for the Proposed Development and the requirement for the CTMP:

- Appropriate traffic management measures will be implemented at all site access points to avoid conflicts with other road users;
- Appropriate traffic management measures including signage will be implemented along the A835 and A832 to avoid conflicts with non-motorised users; and
- A sustainable construction staff access plan will be developed for the Proposed Development

13.6 Other Issues Scoped Out

The level of traffic associated with the operational phase of the Proposed Development will be minimal as the site will not be manned. Vehicle movements associated with the operational phase will only be required during routine maintenance visits using cars or LGVs at a maximum of four times per calendar month (once per week). The effect of operational traffic is expected to be minimal and negligible in terms of existing traffic flow levels on routes within the vicinity of the Proposed Development. Assessment of operational traffic has therefore been scoped out of this assessment.

Environmental impacts associated with HGV movements will include vibration, noise, and highway safety risks. However, these effects are anticipated to be temporary during the construction phase and are expected to have a negligible impact on highway conditions. Temporary noise and vibration during construction will be monitored, with road traffic-related impacts excluded from the overall assessment.

14. POPULATION AND HUMAN HEALTH

14.1 Introduction

This chapter sets out the proposed approach to consideration of the potential effects of the Proposed Development on population and human health. Due to the nature of the Proposed Development, the potential effects which have been considered are the perceived health effects associated with electromagnetic fields (EMF).

14.2 Baseline Conditions

14.2.1 The Proposed Development predominantly passes through a rural to semi-rural landscape including some hamlets and scattered residential properties.

EMFs are produced both naturally and as a result of human activity. The earth has a magnetic field (produced by currents deep inside the molten core of the planet) and an electric field (produced by electrical activity in the atmosphere, such as thunderstorms). Wherever electricity is used, there will also be electric and magnetic fields; this is inherent in the laws of physics. All transmission systems are designed to comply with relevant UK Government guidelines on exposure to EMFs which are strictly followed by the electricity transmission industry.

14.3 Sensitive Receptors

The principal groups of sensitive receptors to health effects associated with the Proposed Development are construction workers and residents in nearby properties and settlements. There are sporadic residential properties, typically in small groups and settlements, within the area defined by the Proposed Route of the OHL, however the majority of larger settlements (ie towns and villages with over 500 inhabitants) are located over 1 km from the Proposed Development.

14.4 Issues Scoped Out

It is anticipated that the Proposed Development would not result in any significant impacts to population and human health. Therefore, no mitigation measures are considered to be necessary.

EMFs arise from electric charges and current flow. Transmission lines comply with the government policy of adopting the guidelines of the International Commission on Non-Ionising Radiation Protection (ICNIRP) on exposure to EMFs. SSEN Transmission believe that compliance with government policy on levels of exposure to EMFs, which in turn is based on the advice of the government's independent scientific advisers, the National Radiological Protection Board (NRPB) (now part of the Health Protection Agency), ensures the appropriate level of protection for the public from these fields. The NRPB keeps the results of EMF health studies under constant review to ensure that the guidelines for limiting exposure are based on the best available scientific information. It is therefore concluded that no likely significant effect on human health associated with EMFs are anticipated, and this issue is therefore scoped out from further assessment.

14.5 Potential Significant Effects

14.5.1 The impacts on population and human health for a development of this nature are limited and comprise a composite of the effects of other topics such as noise, air quality, hydrology (private water supplies) and recreation, which are considered separately within this report.

The typical field strengths for 132 kV OHL are within the ICNIRP exposure guidelines. As such there is no likely significant effect on human health associated with EMFs.

14.6 Summary

The Proposed Development is unlikely to have adverse effects on human health due to the location of the Proposed Development and the technology proposed. It is therefore concluded that no likely significant effect on human health associated with EMFs are anticipated, and this issue and a population and human health chapter will not be presented in further assessment.

15. SOCIOECONOMIC AND TOURISM

15.1 Introduction

This chapter describes the baseline conditions and potential effects relating to socio-economics, tourism for the construction, and operation phases of the Proposed Development. A desk study was undertaken to gather socio-economic data (population characteristics, employment, housing etc) and tourism industry related data (sector performance, existing assets etc). The local conditions relating to socio-economic and tourism directly within and adjacent to the Proposed Development will be assessed.

15.2 Baseline Conditions

15.2.1 General

This section sets out the baseline conditions for the Proposed Development. It describes demographics, housing, deprivation, labour market, tourism sites, and community facilities. The Proposed Development is located entirely within the Highland Council (THC) region of Scotland.

Demographics and labour market statistics are covered at the council level with comparisons made to national trends. Tourism and recreation sites are covered in more detail for each section of the Proposed Development.

Table 15.1 summarises key socio-economic, tourism and recreation-related literature and data sources used to define the baseline environment and inform this chapter.

Table 15.1 Key Socio-economic, tourism and recreation literature

Source	Summary	Source	Coverage
Demographics / Social datasets			
Population Estimates	Total population and demographic structure by council	National Records of Scotland (NRS)[115]	Council / Scotland
Population Projections	Populations projections	NRS[116]	Council / Scotland
Estimated Population Aged 16 Years and Over	Data on the number of people who are unemployed and in employment at council level	Office for National Statistics (ONS).[117]	Council / Scotland
Household Income	Estimates of income per person by council	NRS	Council / Scotland
Cost of Housing	Median price of housing sales by county over time	HM Land Registry [118]	Council / Scotland

[115] National Records of Scotland (2022). Mid-2021 Population Estimates Scotland. Available at: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates/mid-2021
[116] National Records of Scoltand (2023). Projected Population of Scotland (2020-based). Available at: https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-projections/population-projections-scotland/2020-based
[117] Office for National Statistics (2024). Annual Population Survey. Available at: https://www.nomisweb.co.uk/datasets/apsnew
[118] HM Land Registry (2023). UK House Price Index Scotland: January 2023. Available at: https://www.gov.uk/government/statistics/uk-house-price-index-for-january-2023/uk-house-price-index-scotland-january-2023

Source	Summary	Source	Coverage
Housing Stock	Housing stock by council	Scottish Government [119]	Council / Scotland
Patients per Doctor	National data from the Department for Health on patients per doctor	Public Health Scotland	Council / Scotland
Pupil-Teacher Ratios	National level data for first and second level institutions on number of pupils and teachers	Scottish Government[120]	Council / Scotland
Economic datasets			
Business Demography	Information on employees, active enterprises and persons engaged by sector and council	Office for National Statistics (ONS)[121]	Council / Scotland
Labour Market Statistics	Information on employment levels throughout Scotland	ONS[122]	Council / Scotland
Gross Value Added (GVA)	Changes in gross domestic product over time	ONS[123]	Scotland
Tourism datasets			
Tourism Employment	Estimates of the employment supported by tourism in Scotland	Business Register and Enterprise Survey (BRES)[124]	Scotland
Tourism Spending	Spending by visitors to Scotland and Scottish regions	Visit Scotland / Visit Britain[125]	Scotland
Tourism Volume	Number of visitors to Scotland and Scottish regions	Visit Scotland / Visit Britain	Scotland
Tourism Attraction	Tourism attractions across Scotland	Visit Scotland / Visit Britain	Scotland

[119] Scottish Government (2022). Housing statistics: Stock by tenure. Available at: https://www.gov.scot/publications/housing-statistics-stock-by-tenure/

[120] Scottish Government (2023). Schools Statistics. Available at: https://www.gov.scot/news/schools-statistics/

[121] Office for National Statistics (2023). Business Register Enterprise and Survey. Available at: https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/businessregisterandemploymentsurvey

[122] Office for National Statistics (2023). Labour market overview, UK: January 2024. Available at: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/uklabourmarket/january2024

[123] Office for National Statistics (2018). Regional gross value added (balanced) by local authority in the UK. Available at: https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/regionalgrossvalueaddedbalancedbylocalauthorityintheuk

[124] Office for National Statistics (2023). Business Register Enterprise and Survey. Available at: https://www.ons.gov.uk/surveys/informationforbusinesses/businesssurveys/businessregisterandemploymentsurvey

[125] Visit Scotland (2023). Highlands. Available at: https://www.visitscotland.org/research-insights/regions/highlands

15.2.2 Demographics

In 2021, THC had an estimated population of 238,060, which was a slight increase of 1.1% from 235,430 in 2020. Over the same period, the population of Scotland has increased by just 0.3%. Despite this overall population increase in the region, there are pockets of decreasing population which have been attributed to natural change (more deaths than births). The 0-15 age group in the THC saw the biggest decrease between 2001 and 2021 (6.7%). By contrast, the over-75 age group saw the largest increase (60.6%) during the same period.

According to THC's population projections, natural change will cause an estimated 2.6% decrease in the total population of THC between 2018 and 2028. However, net migration from other parts of the UK and other countries is estimated to result in a 3.2% increase in population over the same period. As such the overall change will be an increase of 0.6%. Net migration will somewhat combat declining population numbers for THC.

THC are significantly more sparsely populated than the national average with a 2021 population density of 9.3 persons per km^2 compared to 70 persons per km^2 for Scotland in 2022.

As recorded in the 2011 census, 79.9% of the population of THC identified as white Scottish, 14.7% as white British, 2% as white other, 1.5% as white Polish, 0.6% as white Irish, 0.8% as Asian and 0.6% as other ethnic groups. As such the population of THC region is relatively homogenous. The majority of the population has no religion (37.3%) closely followed by the Church of Scotland (36.9%).

15.2.3 Housing

In 2022, the number of households recorded in THC was 111,633 which had increased by 24.6% since 2001. This is above the average increase in households for Scotland which is 16.2% since 2001. However, the growth is expected to slow to align with national levels in THC area, with projections between 2018 and 2028 showing an increase of 4.4% in the number of households in the council area and 4.9% for Scotland.

The number of dwellings recorded in THC area in 2022 was 122,235 which represented an increase of 1.2% compared to 2021. This is a larger increase than was seen at a national level (0.9%) over the same period. According to THC Strategic Housing Investment Plan 2023-2028, the council aims to build 500 new affordable homes every year for the next 5 years.

15.2.4 Labour Market

In THC, 75.5% of the population was estimated to be economically active between July 2022 and June 2023. This was slightly lower than the economic activity rate for Scotland (77.4%). During the same period, 28.6% were long-term sick and 26.6% were retired in THC. The number of retired residents in THC was significantly higher than rates seen at a national level (14%). The unemployment rate for THC was recorded as 2.7% in June 2023 compared to 3.2% for Scotland. Employment by sector in THC is summarised in **Table 15.2** below. Sectors that are notably more prominent in THC include accommodation and food services, human health and social work, and wholesale, retail trade and repairs.

Table 15.2 Sectors prominent in THC

Sector	THC	Scotland
Accommodation and food services	13.5%	8.4%
Administration and support services	5.4%	8.1%
Arts and entertainment	3.6%	3.0%

Sector	THC	Scotland
Construction	7.2%	5.7%
Education	8.1%	8.8%
Electricity, gas, steam, and air conditioning supply	0.9%	0.8%
Financial services	0.8%	3.3%
Human health and social work	17.1%	15.7%
Information and communications	2.3%	3.2%
Manufacturing	5.4%	6.9%
Mining and quarrying	0.4%	1.0%
Professional, scientific and technical activities	5.4%	7.4%
Public administration and defence	5.4%	6.5%
Real estate	1.4%	1.3%
Transport and storage	4.1%	4.1%
Water supply, sewerage, waste management and remediation	2.0%	0.7%
Wholesale, retail trade and repairs	14.4%	12.9%
Other service activities	1.4%	1.6%

Source: ONS Business Register and Employment Survey (2023): open access

15.2.5 Tourism

Tourism is a significant sector in THC region and grew significantly up to 2019. In some parts of THC's region, tourism sector jobs represent up to 43% of the total workforce. As such, tourism sustains many of the local economies and communities. Between 2018 and 2019, overnight visits increased by 30% and overnight spend increased by 23%. This increase was predominantly fuelled by tourists from England and Wales. This compensated for the 15% drop in the number of international trips to THC region in 2019. In 2019, spending from both domestic and international tourists in THC region was over £1.5 billion. In total, approximately 2.9 million overnight tourist stays were recorded for THC region in 2019. These stays were predominantly domestic due to COVID-19 international travel restrictions, which severely hampered the THC region's tourism sector. Within THC region, the accommodation and food services sector saw a decrease in turnover of £160.7 million in 2020. It was estimated by Highlands and Islands Enterprise (HIE) that visitor spend in THC region decreased by between £370 million and £584 million in the 2020-2021 financial year.

15.3 Sensitive Receptors

The assessment will consider potential effects on the following potential sensitive receptors or facilities:

- local businesses;
- key social infrastructure (such as schools, healthcare and community facilities);
- any local areas of tourism or high amenity value that may be affected temporary or permanently, resulting in a loss of use; and
- any land identified for development that may be affected by temporary or permanent land-take required for the construction and/or operation of the OHL.

15.4 Issues Scoped Out

It is proposed that a Socio-economic Assessment is scoped out of the EIAR as the project is expected to provide support to the economy of Scotland in terms of direct and indirect employment and business investment, with wider economic benefits, including the facilitation that the project provides to large scale deployment of renewable generation in the North of Scotland. This is supported by its status as a National Development 3 (ND3) "Strategic Renewable Electricity Generation and Transmission Infrastructure" in NPF4.

The NPF4 adds that: "*Their designation means that the principle for development does not need to be agreed in later consenting processes, providing more certainty for communities, businesses and investors"*. It is on this basis that the Applicant is scoping out socio-economic assessment from the EIA as the Proposed Development falls within the ambit of development supported by established national policy.

15.5 Potential Significant Effects

Potential significant effects may include:

- Effects on the local and national economy through job creation and investment throughout construction and operation of the Proposed Development; and
- Effects on the local tourism industry and recreation activities including walking, cycling and angling.

15.6 Summary

The Proposed Development is unlikely to have adverse effects on the local residents and businesses. Therefore, Socio-economic and Tourism has been scoped out of the EIAR.

16. TOPICS “SCOPED OUT”

As explained above, a number of topics are considered to be not significant and will be scoped out from further consideration within the EIA process. **Table** 16.1 below lists each topic and the elements scoped in and out from further assessment; with a summary of the justification for doing so.

Table 16.1 Issues Scoped In and Out

Topic	Scoped In	Scoped Out
Chapter 4: Landscape Character and Visual Impact	Temporary construction phase of the OHL alignment installation, temporary vehicular routes for construction vehicles and temporary laydown area close to the Proposed Development.	Sporadic maintenance activities and associated site traffic would be minimal, as the Proposed Development will not be permanently staffed. Maintenance activities are scoped out of the LVIA.
	Long term / permanent effects resulting from the operational stage of the Proposed Development, comprising new structures associated with the OHL alignment, permanent access tracks, signage, fencing and landscaping including potential ground modelling along the alignment.	Significant effects on the key characteristics of LCTs and Special Qualities of designated landscapes beyond the 4 km study area are not anticipated, as at this distance the perceptibility of changes would be minimal. Effects on LCTs beyond 4 km will therefore not be considered.
	The LVIA will focus on cumulative impacts from similar forms of development within 4 km of the Proposed Development.	Effects of night-time lighting are scoped out of the LVIA as no night-time working is anticipated.
	The main effects are anticipated to relate to the temporary and / or long term effects on landscape character and views from sensitive receptors, such as residential properties, recreational receptors on core paths or at promoted hilltop locations in closest proximity to the Proposed Development.	Effects upon footpaths and core paths that cross through the Site would be scoped out of construction impacts on the basis they would be closed during the construction period.
	The cumulative LVIA will instead focus on existing, consented and proposed developments (at planning application or appeal stage).	Development proposals at pre-app or scoping stage will be scoped out of the cumulative assessment based on the uncertainty that such schemes will progress to full planning applications.
Chapter 5: Ecology and Nature Conservation	Direct mortality to fauna through e.g. traffic collisions and construction related operations (open trenches and woodland felling operations).	Lighting, noise, dust and visual disturbance caused by construction activities.
	Disturbance / displacement of protected species and their places of shelter through construction related operations.	Wetland habitats identified as potential GWDTE to be considered as part of the appraisal will be defined on the basis of the hydrogeological conductivity calculations under Hydrology. This approach results in some areas of potential GWDTE within 250 m of the alignment being scoped out of the assessment.
	Habitat loss, both temporary and permanent e.g. temporary and permanent infrastructure.	Due to the nature of the works, impacts to protected sites designated only for habitat interest features at distances more than 250 m from the Proposed Development have been scoped out.
	Habitat fragmentation and severance e.g. through removal of woodland listed on the AWI creating isolated and fragmented pockets of woodland. Effects may be temporary and permanent.	Due to the nature of the works, impacts to ecology and nature conservation via emissions to air have been scoped out.

Topic	Scoped In	Scoped Out
	Pollution associated with direct release of construction related contaminants to habitats in particular aquatic / wetland habitats.	
	Hydrological change resulting in drying of e.g. GWDTE habitats or excessive wetting of dryer habitats.	
	Biosecurity risks (spread of invasive species, amphibian diseases) resulting in biodiversity loss from the site due to indirect mortality or species being out competed.	
Chapter 6: Ornithology	Indirect effects on sites designated for ornithological features e.g. Ben Wyvis SPA.	Due to the nature of the works, impacts to birds and their habitats via emissions to air have been scoped out.
	Direct mortality to birds through e.g. traffic collisions and nest destruction during construction, and collision with operational OHL causing electrocution.	Due to the presence of the existing 132 kV OHL and the 275 kV OHL running parallel or in proximity for much of the length to the Proposed Development, and the relatively low height of the Proposed Development, barrier effects are considered to be of negligible significance and are scoped out from further assessment.
	Temporary disturbance / displacement of birds as a result of construction activities.	
	Habitat loss e.g. through forestry felling, access track construction and pole / structure locations.	
	Habitat fragmentation and severance e.g. through access track construction and forestry removal.	
	Hydrological change to habitats resulting in a change of use e.g. drying of wader foraging habitat.	
	Cumulative effects from other developments, either built or proposed, within the zone of influence for ornithological features identified as sensitive receptors of the Proposed Development.	
Chapter 7: Forestry	Temporary or permanent woodland cover loss and fragmentation.	The Proposed Development will not change the forestry land-use of the wider area, as such, no further assessment of land-use change is anticipated and would not be included in the forestry chapter

Topic	Scoped In	Scoped Out
	Potential for windthrow risk and identification of windfirm boundaries.	Secondary effects resulting from forestry activities, including effects on ecology, ornithology and hydrology, will be considered within their respective chapters of the EIAR and would not be included within the forestry chapter.
		Impacts on commercial forestry and the ancient woodland.
	Loss of timber volume production due to early felling.	
	Disturbance of ground by forestry machinery.	
	Tree debris / mulch remaining on site may cause area to take longer to recover the native ground flora.	
Chapter 8: Cultural Heritage	Effects to Cultural Heritage assets have the potential to occur during the construction, operation, and decommissioning phases as a result of either direct or indirect impacts. The Proposed Development has the potential to introduce significant effects to cultural heritage assets.	The listed buildings identified within 5 km of the alignment all derive their significance solely from their form, material and historic function, not their setting or siting within the wider landscape. Therefore, no setting assessment will be required for these assets and indirect impacts for them are scoped out for further assessment.
	During the construction and decommissioning phases, direct and indirect impacts to assets may occur during ground-breaking activities. These ground-breaking activities may result in irreversible impacts, adverse to the integrity of the asset.	Operational activities have been scoped out of further assessment, as routine maintenance is not anticipated to introduce new or different effects, however emergency replacement may require cultural heritage assessment.
	Potential effects to low grade and high grade sensitive receptors and Cultural Heritage Assets.	Temporary indirect impacts (e.g. dust, noise and vibration) to assets beyond the boundary of the Proposed Development.
	There is potential for additional unknown and buried archaeological assets to exist within the Proposed Development. Therefore, there remains the potential for further significant effects to arise during construction activities.	Any direct impacts to designated and non-designated assets beyond the boundary of the Proposed Development (outside the 100 m corridor).
Chapter 9: Hydrology, Hydrogeology, Geology, and Soils	Potential for peat destabilisation and peat slide risk.	Pollution and sedimentation effects on the water environment at distances greater than 10 km and it is proposed that receptors beyond this distance are scoped out.
	Potential effects relating to peat disturbance and the subsequent effects from excavated peat and management of peat and peaty soils.	Impacts relating to migration of pollutants from contaminated land as the site has not previously been developed and it is unlikely contaminated land will be encountered.

Topic	Scoped In	Scoped Out
	Chemical pollution and sedimentation of watercourses and the wider hydrological environment as a result of construction works, including excavations.	Increased run-off and flood risk from new hardstanding areas, as the footprint associated with tower foundations and any felling areas (keyhole approach) are assumed to be negligible, and any foundations are located outside the floodplain.
	Pollution from construction vehicles or plant onsite.	It is proposed that designated hydrological receptors which are not hydrologically connected should be scoped out.
	Impediments to watercourse from shallow foundations, dewatering and excavation works.	
	Compaction of soils and superficial deposits and reduction in ability of such deposits to store water.	
	Impacts on DWPA catchments and PWS both in terms of water quality, quantity, and security of supply.	
	Modifications to groundwater conditions, including levels and flows, which may cause alteration to receptors such as GWDTE or groundwater-fed PWS.	
Chapter 10: Noise and Vibration		Any operational maintenance works required will be short-term and intermittent and are not expected to give rise to significant effects relating to noise and vibration. Therefore, this topic is proposed to be scoped out of the EIA.
		Construction noise and vibration would be short term and intermittent and could be controlled through the implementation of a noise management plan, which would be developed as part of the CEMP prepared by the Principal Contractor. As such and given the remoteness of construction activity for much of the project, no detailed assessment of construction noise and vibration associated with plant noise or traffic is proposed as part of the EIA.
		NSRs experiencing traffic increases of less than 18% will not experience adverse impact and therefore require no further assessment.
		There are no potential effects from vibration and thus this topic is scoped out of further assessment.
		It is anticipated that there will be no noise emissions during operation. It is expected that construction activities will be controlled in line with British

Topic	Scoped In	Scoped Out
		Standard 5228: Code of practice for noise and vibration control on construction and open sites.
		Due to the construction being controlled within regulations of Scottish and British standardisation, there will be low potential for significant impact to noise and vibration for this development.
Chapter 11: Land Use and Amenity	Effects on the local and national economy through job creation and investment throughout construction, operation and decommissioning of the Proposed Development;	On the basis that the agricultural land within the Proposed Development is of low sensitivity and that only a small proportion of the area of the alignment (access tracks and wood pole locations) would be affected, the Proposed Development is unlikely to result in significant effects. Overall, the Proposed Development would not impinge on landowner choice over the type or intensity level of land operations, and would not require any significant management changes. As such, no further assessment of land use is proposed as part of the EIA
	Effects on the local tourism industry and recreation activities including walking, cycling and angling.	The potential for significant effects on recreational receptors would concern walkers on the core paths. However, this alignment is unlikely to compromise the recreational amenity of the core paths in the area
	Effects related to the alteration of land use within the Proposed Development area.	
	Effects on recreational receptors would concern walkers on the core paths. However, the Proposed Development is unlikely to compromise the recreational amenity of the core paths in the area.	
Chapter 12: Climate Change and Carbon Balance	A separate climate change and carbon balance chapter will be prepared. Effects of climate change will be assessed where applicable. Increased windstorm frequency could affect the development, but the impacts would be managed, and no significant effects are anticipated.	An assessment of life cycle/embodied carbon is scoped out of the EIA Report
		It is not predicted that there would be significant environmental effects on climate mitigation and this aspect is scoped out of further assessment in the EIA.
		It is anticipated that the level of traffic associated with the operational phase of the Proposed Development would be minimal as the site will not be manned. Regular maintenance visits would be made using 4x4 vehicles. It is therefore

Topic	Scoped In	Scoped Out
Chapter 13: Traffic and Transport		considered that the effects of the operational traffic would be negligible and therefore no detailed assessment of the operational phase of the development is proposed.
		Traffic levels associated with the decommissioning phase will be less than those associated with the construction phase as some elements such as access roads would be left in place on the site. As such the construction phase is considered the worst-case assessment to review the impact on the Proposed Development area. It is not possible to accurately forecast baseline traffic flow levels 40 years into the future. For the above reasons, further work would be undertaken at the time of decommissioning to determine if significant transport effects might be experienced.
		Environmental impacts arising from HGV movements will include vibration, noise, and highway safety risks, however these will be temporary during the construction phase and would have a negligible highway impact. It should be noted that the need for an assessment of the noise impacts of construction traffic will be considered as part of the noise and vibration assessment. It is proposed that assessment of construction noise, as a result of road traffic, is scoped out of the assessment.
Chapter 14: Population and Human Health		The impacts on population and human health for a development of this nature and scale are limited and comprise a composite of the effects of other topics such as noise, air quality, hydrology (private water supplies), and recreation, which are considered separately within this report.
		There are no mitigation measures considered to be necessary and therefore Population and Human Health is being scoped out of the EIAR.
		The typical field strengths for 132 kV OHL are within the ICNIRP exposure guidelines. As such there is no likely significant effect on human health associated with EMFs.
Chapter 15: Socio-economics and Tourism		Due to the lack of legislative requirement for assessing socio-economics, tourism or recreational effects, it has been determined that socio-economics and tourism will be scoped out of the EIAR.

17. NEXT STEPS

SSEN Transmission invites consultees to comment on the following:

- What environmental information do you hold or are aware of that will assist in the EIA described here?
- Do you agree with the proposed approach for baseline collection, prediction and significance assessment?
- Are there any key issues or possible effects which have been omitted?
- Do you agree with the list of issues to be scoped out, and the rationale behind the decision?
- Of those issues identified for assessment, which do you consider the most important/material and which the least?

All responses should be addressed to:

Local Energy and Consents

Scottish Government

4th Floor

5 Atlantic Quay

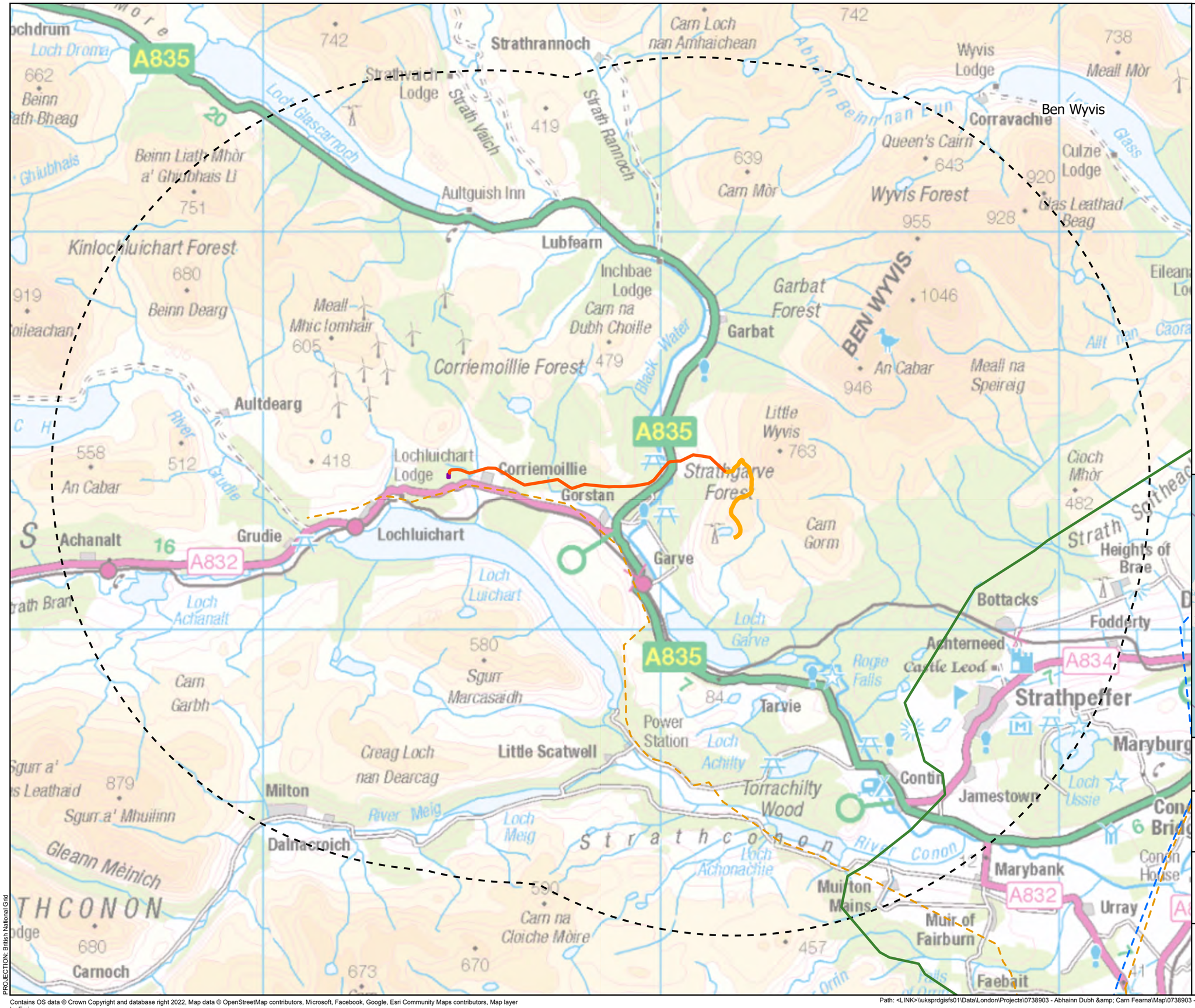
150 Broomielaw

Glasgow

G2 8LU

The Scoping Opinion provided will be used to finalise the terms of the EIA and the specific approach to the individual assessments. All comments received will be included in the EIAR for reference, unless consultees request otherwise.

FIGURES



Indicative Corriemoillie Substation Extension
Existing 132kV OHL
Existing 275kV OHL
Proposed Spittal to Loch Buidhe to Beauly OHL
10km Buffer

Carn Fearna Preferred Alignments
3.1 (UGC)
3.2 (OHL)

0 1 2 3 4
Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: CI
PROJECT: 0738456	CHECKED: LS
DATE: 6/2/2025	APPROVED: MG

Figure 2.1
Study Area

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Path: <LINK>\\uksprdgisfs01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx</LINK> / 0738903 - Carn Fearna - Fig 1.1 & Fig 2.1 Study Area - A01

Novar
(Meall an
Tuirc)

Lochluichart
Extention Phase 2

Kirkan wind farm

Lochluichart
Extension

Lochluichart
Windfarm

Lochluichart
Extension

Corriemoillie

Lochluichart
Extension

Abhainn Dubh
Drynie
Windfarm

Tarvie
wind farm

Fairburn

Fairburn Wind
Farm Extension (2022)

KINLOCHLUICHART AND AULICHONIER FOREST

WYVIS FOREST

GARBAT FOREST

STRATHGARVE FOREST

STRATHBRAN FOREST

STRATHCONON FOREST

CABAAN FOREST

LOCH LUICHART

Strathconon

Scotland

Aberdee

Dundee

Edinburgh

Indicative Corriemoillie Substation Extension
Existing 132kV OHL
Existing 275kV OHL
Proposed Spittal to Loch Buidhe to Beauly OHL
10km Buffer
Carn Fearna Preferred Alignment
OHL - 3.2 - Proposed Development
UGC Proposed Area
Cumulative Developments
Onshore Windfarm Proposals

0 1 2 3 4
Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JG
PROJECT: 0738456	CHECKED: SC
DATE: 6/2/2025	APPROVED: MG

Figure 3.1
Cumulative Developments

ERM

Scottish & Southern Electricity Networks
TRANSMISSION

PROJECTION: British National Grid

Path: \\uksprdgisfs01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx / 0738903 - Carn Fearna - Fig. 3.1 - Cumulative Developments - A01

Indicative Corriemoillie Substation Extension

Proposed Spittal to Loch Buidhe to Beauly OHL

Existing 132kV OHL

Existing 275kV OHL

Carn Fearna Preferred Alignment

OHL - 3.2 - Proposed Development

UGC Proposed Area

Viewpoint

Core Paths (Scottish Government)

Landscape Character Assessment 2019 (NatureScot)

Landscape Character Assessment 2019 (NatureScot)

VP1

VP2

VP3

VP4

Rounded Mountain Massif

Rounded Hills and Moorland Slopes - Ross & Cromarty

Rugged Mountain Massif - Ross & Cromarty

Strath - Ross & Cromarty

Rounded Rocky Hills - Ross & Cromarty

Wooded Glens and Rocky Moorland

Inland Strath

Forest Edge Farming

Open Steep Farmed Slopes

Farmed River Plains

Open Farmed Slopes

Farmed and Forested Slopes - Ross & Cromarty

KINLOCHLUICHART AND AULTCHONIER FOREST

CORRIEMOILLIE FOREST

GARBAT FOREST

WYVIS FOREST

STRATHBRAN FOREST

STRATHCONON FOREST

CABAAN FOREST

Edinburgh

United Kingdom

Leeds

0 1 2 3 4

Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JG
PROJECT: 0738456	CHECKED: PM
DATE: 5/28/2025	APPROVED:

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Path: \\UKSPRDGISFS01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx \ 0738903 - Carn Fearna - Provisional Viewpoints - A01

Figure 4.1

Indicative Corriemoillie Substation Extension

5km Buffer

Proposed Spittal to Loch Buidhe to Beauly OHL

Existing 132kV OHL

Natural Heritage Constraints

Special Protection Areas (SPA)

Special Areas Of Conservation (SAC)

Sites Of Special Scientific Interest (SSSI)

IMPORTANCE

Carbon And Peatland - Class 1 Importance

Carbon And Peatland - Class 2 Importance

Ancient Woodland Inventory (AWI)

Wildcat Protection Areas

Carn Fearna Preferred Alignment

OHL - 3.2 - Proposed Development

UGC Proposed Area

0 0.5 1 1.5 2 2.5

Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JG
PROJECT: 0738456	CHECKED: SC
DATE: 5/30/2025	APPROVED: MG

Figure 5.1
Environmental Designations and Constraints

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Path: \\UKSPRDGISFS01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx / 0738903 - Carn Fearna - Fig 5.1 - Route Environmental Constraints - A01

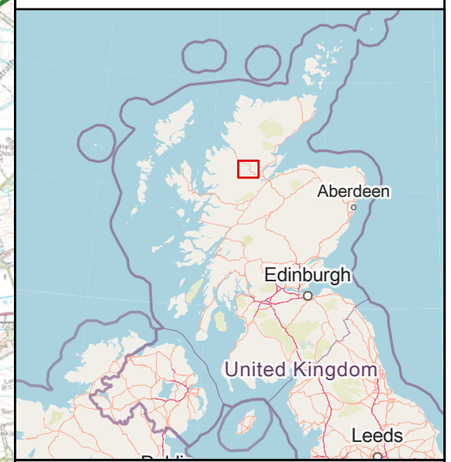
Indicative Corriemoillie Substation Extension
Existing 132kV OHL
Existing 275kV OHL
Proposed Spittal to Loch Buidhe to Beauly OHL

Carn Fearna Preferred Alignment

OHL - 3.2 - Proposed Development
UGC Proposed Area
Vantage Points
Vantage Points 2km Buffer

Natural Heritage Constraints

Special Protection Areas (SPA)
Special Areas Of Conservation (SAC)
Sites Of Special Scientific Interest (SSSI)



0 1 2 3 4
Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JG
PROJECT: 0738456	CHECKED: SC
DATE: 6/2/2025	APPROVED: MG

Figure 6.1
Vantage Point Locations and Viewsheds

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Path: \\uksprdgisfs01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx / 0738903 - Carn Fearna - Fig 6.1 - Vantage Point Locations and Viewsheds - A01

Indicative Corriemoillie Substation Extension

Existing 132kV OHL

Survey Buffers

2km & 1.5km & 250m Buffers

Carn Fearna Preferred Alignment

OHL - 3.2 - Proposed Development

UGC Proposed Area

Aberdee

Scotland

Dundee

Edinburgh

0 0.5 1 1.5

Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JG
PROJECT: 0738456	CHECKED: SC
DATE: 6/2/2025	APPROVED: MG

Figure 6.2
Ornithology Survey Buffers

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Path: \\uksprdgisfs01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx / 0738903 - Carn Fearna - Fig 6.2 - Ornithology Survey Buffers - A01

Beinn Dearg

Fannich Hills

Ben Wyvis

Carn gorm

Glen Affric to Strathconon

Comarty Firth

Beauly Firth

Indicative Corriemoillie Substation Extension
Existing 132kV OHL
Existing 275kV OHL
Proposed Spittal to Loch Buidhe to Beauly OHL
20km & 10km & 2km Buffer
Carn Fearna Preferred Alignment
OHL - 3.2 - Proposed Development
UGC Proposed Area

Natural Heritage Constraints

Ramsar Sites
Special Protection Areas (SPA)
Sites Of Special Scientific Interest (SSSI)

Scotland
Aberdee
Dundee
Edinburgh

0 2 4 6
Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JG
PROJECT: 0738456	CHECKED: SC
DATE: 6/2/2025	APPROVED: MG

Figure 6.3
Ornithology Designations and Constraints

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Path: \\uksprdgisfs01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx / 0738903 - Carn Fearna - Fig 6.3 - Ornithology Designations and Constraints - A01

Indicative Corriemoillie Substation Extension

2km Buffer

Proposed Spittal to Loch Buidhe to Beauly OHL

Existing 132kV OHL

Existing 275kV OHL

Carn Fearna Preferred Alignment

OHL - 3.2 - Proposed Development

UGC Proposed Area

Ancient Woodland Inventory (AWI) within 2km

Ancient (of semi-natural origin)

Long-Established (of plantation origin)

Other (on Roy map)

Woodland (OS Open Data) within 2km

0 0.5 1 1.5 2

Kilometres

N

SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: JG
PROJECT: 0738903	CHECKED: LS
DATE: 5/28/2025	APPROVED: KG

Figure 7.1
Forestry Constraints

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid

Path: \\UKSPRDGISFS01\Data\London\Projects\0738903 - Abhainn Dubh & Carn Fearna\Map\0738903 - Carn Fearna.aprx / 0738903 - Carn Fearna - Forestry Constraints - A01

Indicative Corriemoillie Substation Extension
Existing 132kV OHL
Proposed Spittal to Loch Buidhe to Beauly OHL
5km Buffer
Carn Fearna Preferred Alignment
OHL - 3.2 - Proposed Development
UGC Proposed Area

Cultural Heritage Constraints

CATEGORY

Category B Listed Building
Category C Listed Building
Scheduled Monument
Garden and Designed Landscape

Aultguish Inn
Lubfearn
Inchbae Lodge
Cam na Dubh Choille
Cam Mòr
Wyvis Forest
Garbat Forest
BEN WYVIS
Garbat
Meall Mhic Iomhair
Corriemoillie Forest
Black Water
An Cabar
Aultdearg
Lochluichart Lodge
Corriemoillie
Gorstan
A835
Little Wyvis
Strathgarve Forest
SM2720
LB1774
LB1774
LB1775
LB51705
Grudie
Lochluichart
Garve
Loch Luichart
Loch Garve
Cam Gorm
Sgurr Marcasaidh
Rogie Falls
GDL00094
GDL00370
SM3987
Tarvie
Power Station
Loch Achilty
SM1667
SM11056
Creag Loch nan Dearcag
Little Scatwell
Milton
SM2397
Torrachilty Wood

Aberdee
Scotland
Dundee
Edinburgh

0 0.5 1 1.5 2 2.5
Kilometres

N

SCALE: See Scale Bar	VERSION: A01
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DATE: 6/2/2025	APPROVED: MG

Figure 8.1
Designated Assets within 5km

ERM

Scottish & Southern Electricity Networks TRANSMISSION

PROJECTION: British National Grid