Scottish & Southern Electricity Networks

TRANSMISSION

Dunoon to Loch Long 132kV OHL Rebuild

Environmental Impact Assessment

Volume 4 | Technical Appendix

Appendix 4.2 - EIA Scoping Report

Scottish & Southern Electricity Networks

Scottish Hydro Electric Transmission plc

Dunoon to Loch Long 132kV OHL Rebuild

Scoping Request

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List of Abbreviations

ACoW	Archaeological Clerk of Works
AOD	Above Ordnance Datum
APQ	Areas of Panoramic Quality
BAP	Biodiversity Action Plan
BGS	British Geological Survey
BNG	Biodiversity Net Gain
BPP	Badger Protection Plan
BSI	British Standards Institution
BTO	British Trust for Ornithology
CAA	Civil Aviation Authority
CAR	Controlled Activity Regulation
CBD	Convention on Biological Diversity
CDM	Construction Design and Management
CEMD	Construction Environmental Management Document
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
CRA	Collision Risk Assessment
CTMP	Construction Traffic Management Plan
DECC	Department of Energy and Climate Change
DMP	Drainage Management Plan
DTM	Digital Terrain Model
DWPA	Drinking Water Protected Areas
EcIA	Ecological Impact Assessment
ECoW	Environmental Clerk of Works
ECU	Scottish Government Energy Consents Unit
EIA	Environmental Impact Assessment
EMF	Electric and Magnetic Field
EMP	Environmental Management Plan
EPS	European Protected Species
EIA Report	Environmental Impact Assessment Report
FCS	Forestry Commission Scotland
FRA	Flood Risk Assessment
GDL	Gardens and Designed Landscapes
GEMPs	General Environment Management Plans
GIS	Geographic Information System
GVLIA 3	Guidelines for Landscape and Visual Impact Assessment 3rd Edition
GWDTE	Groundwater Dependent Terrestrial Ecosystems
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HLAMap	Historic Land-Use Assessment Data for Scotland
HES	Historic Environment Scotland
ICNRIP	International Commission on Non-Ionising Radiation Protection
LCA	Landscape Character Assessment
LCC	Land Capability Classification
LCT	Landscape Character Type

LEC	Local Energy Consents
LNCS	Local Nature Conservation Site
LNR	Local Nature Reserve
LOD	Limits of Deviation
LVIA	Landscape and Visual Impact Assessment
MPA	Marine Protected Area
NBN	National Biodiversity Network
NCN	National Cycle Network
NNR	National Nature Reserve
NPF3	National Planning Framework 3 (Scotland)
NSR	Noise sensitive receptors
NTS	Non-Technical Summary
NVC	National Vegetation Classification
OC	Operational Corridor
OHL	Overhead Line
PPG	Pollution Prevention Guidance
PAWS	Planted Ancient Woodland Sites
PWS	Private Water Supply
RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland
RFI	Radio Frequency Interference
RSPB	Royal Society for the Protection of Birds
SAC	Special Areas of Conservation
SEC	Sealing End Compound
SEPA	Scottish Environment Protection Agency
SHE	Scottish Hydro Electric
SHEP	Scottish Historic Environment Policy
SLA	Special Landscape Area
SM	Scheduled Monument
SNH	Scottish Natural Heritage
SNRHE	Scottish National Record of the Historic Environment
SPAD	The Scottish Palaeoecological Database
SPP	Scottish Planning Policy
SpPP	Species Protection Plan
SSEN	Scottish and Southern Electricity Networks
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Drainage Systems
UKFS	UK Forestry Standard
UU	United Nations
VP	Vantage Point
WEWS	Water Environment and Water
WFD	Water Framework Directive
WSI	Written Scheme of Investigation
ZTV	Zone of Theoretical Visibility

Glossary

Term	Definition
Alignment	A centre line of an overhead line OHL, along with location of key angle structures.
Alignment (preferred)	A centre line of an overhead line (OHL), along with location of key angle structures taken forward to stakeholder consultation following a comparative appraisal of alignment options.
Alignment (proposed)	A centre line of an overhead line (OHL), along with location of key angle structures taken forward following stakeholder consultation to the EIA stage of the overhead line routeing process.
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.
Conductor	A metallic wire strung from structure to structure, to carry electric current.
Consultation	The dynamic process of dialogue between individuals or groups, based on a genuine exchange of views and, normally, with the objective of influencing decisions, policies or programmes of action.
Corridor	A linear area which allows a continuous connection between the defined connection points. The corridor may vary in width along its length; in unconstrained areas it may be many kilometres wide.
Environmental Impact Assessment (EIA)	Environmental Impact Assessment. 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.
Electric and Magnetic Field (EMF)	EMFs arise from electric charges and current flow.
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.
Habitat	Term most accurately meaning the place in which a species lives, but also used to describe plant communities or agglomerations of plant communities.
Kilovolt (kV)	One thousand volts.
Limit of Deviation (LOD)	The area either side of the proposed alignment within which micrositing of structures may take place.
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.
Micro-siting	The process of positioning individual structures to avoid localised environmental or technical constraints.
Mitigation	Term used to indicate avoidance, remediation or alleviation of adverse impacts.
National Scenic Area (NSA)	A national level designation applied to those landscapes considered to be of exceptional scenic value.
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.
Riparian Woodland	Natural home for plants and animals occurring in a thin strip of land bordering a stream or river.
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.
Route (preferred)	A route for the overhead line taken forward to stakeholder consultation following a comparative appraisal of route options.

Route (proposed)	A route taken forward following stakeholder consultation to the alignment selection stage of the overhead line routeing process.
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.
Scheduled 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'.
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.
Site 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 structures.
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)	Landscapes designated by Argyll and Bute Council which are considered to be of regional/local importance for their scenic qualities.
Special Protection Area (SPA)	An area designated under the Wild Birds Directive (Directive 79/409/EEC) to protect important bird habitats. Implemented under the Wildlife and Countryside Act 1981.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.
Study Area	The area within which the corridor, route and alignment study takes place.
Terminal Structure	A structure (tower or pole) required where the line terminates either at a substation or at the beginning and end of an underground cable section.
The National Grid	The electricity transmission network in the Great Britain.
Volts	The international unit of electric potential and electromotive force.
Wayleave	A voluntary agreement entered into between a landowner upon whose land an overhead line is to be constructed and SSEN Transmission.
Wild Land Area (WLA)	Those areas comprising the greatest and most extensive areas of high wildness. It is not a statutory designation, but wild land areas are considered nationally important.

Executive Summary

Scottish and Southern Electricity Networks Transmission PLC (SSEN Transmission) propose to construct a replacement 132 Kilovolt (kV) double circuit overhead line (OHL) between the existing Dunoon substation and Tower 15 to the west of Loch Long, a distance of approximately 17.3 km (hereafter referred to as the 'Proposed Development').

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 EIA Report, this document also identifies those aspects that are not considered necessary to assess further. **Table E1** below lists each topic and the elements proposed to be scoped in and out from further assessment, with further discussion and justification for doing so provided in this Scoping Report.

Table E1 – Summary of environmental topics scoped in/out of the EIA

Topic	Scoped In	Scoped Out
Landscape and Visual Impact	Landscape - construction and operational activities would have the potential to be intrusive in the landscape locally, giving rise to temporary and permanent significant landscape effects. This will include consideration of the Special Qualities of the Loch Lomond and the Trossachs National Park. Visual - the potential for adverse effects during construction and operation arises primarily from the presence of new, larger steel lattice towers, which may form an intrusive element in views where a tower was not previously visible or was less noticeable.	The effect on Landscape Character Type (LCT) will not be considered as the magnitude of change from a replacement OHL would be too small to have a significant effect. The effect on National Scenic Areas, Wild Land Areas and Argyll and Bute Areas of Panoramic Quality will not be considered because the nearest areas are too far from the Proposed Development to be affected.
Cultural Heritage	Construction and operational direct and indirect effects upon archaeological and Cultural Heritage features.	The direct and indirect impacts during construction and operation of the Proposed Development on World Heritage Sites, Marine Protected Areas and Inventory Battlefields will be scoped out of the cultural heritage assessment as there are none which cross the Proposed Development or are located within the 3 km study area. Assessment of direct impacts to Listed Buildings and Gardens and Designed Landscapes (GDLs) will be scoped out as there will be no direct impacts on any Listed Buildings or GDLs. The replacement OHL was routed to avoid any impacts on the Benmore (Younger Botanic Gardens) GDL (GDL00056) during the routing and alignment optioneering.
Hydrology, Hydrogeology, Geology, and Soils	Potentially significant effects that may result from the construction phase of the Proposed Development: - Impacts on private water supplies; - Flooding;	Construction pollution is scoped out as it is considered that good design and embedded pollution prevention mitigation including the Applicant's General Environmental Management Plans (GEMPs) will minimise the potential for

Topic	Scoped In	Scoped Out
	- Operational impacts on groundwater levels and flows; - Soil erosion, compaction and excavation losses during access or construction; - Impact on water resource availability; and, - Modifications to groundwater conditions, which may cause alteration to receptors such as Groundwater Dependent Terrestrial Ecosystems (GWDTE) or groundwater-fed water supplies.	pollutants or sediment to be released into waterbodies. Mobilisation of contaminated soil / bedrock is considered to be unlilkely to be significant considering the location of the OHL Route.
Ecology and Nature Conservation	Construction impacts - an ecological Impact Assessment (EcIA) will be undertaken which will consider: - Impacts upon legally protected and notable species including red squirrel; and, - Impacts upon sensitive terrestrial and aquatic habitats including ancient woodland, peatland, coastal and estuarine habitats.	Construction impacts on Craighoyle Woodland Site of Special Scientific Interest (SSSI), Loch Eck SSSI, Upper Loch Fyne Marine Protected Area (MPA) and Loch Goil MPA are scoped out due to distance from the Proposed Development and lack of hydrological connectivity. Impacts on Holy Loch Local Nature Reserve (LNR) and Local Nature Conservation Site (LNCS) (a shoreline habitat which is downstream of the Little Eachaig River catchment which is crossed by the proposed OHL route) are scoped out on the basis that watercourses will be protected against pollution and siltation events as part of scheme design. Construction impacts on agricultural land and built-up areas within the ecological study area have been scoped out due to being of low ecological value when considered in isolation. Operational impacts on bats and other ecological receptors are scoped out as the post-construction situation will not be different (in ecological terms) from the current baseline situation. The findings of the Biodiversity Net Gain (BNG) assessment will be incorporated into scheme design as part of SSEN's sustainability strategy. The BNG assessment is subject to a separate reporting process and will not form part of the EIA Report.
Ornithology	Potential significant effects will be limited the following ornithological receptors; golden eagle, hen harrier, black grouse and barn owl. Construction impacts: - Loss or degradation of habitats; - Disturbance and displacement; and, - Injury or mortality. Operational impacts:	Construction and Operational impacts on the following are scoped out from further assessment: - Impacts upon any designated site with ornithological features; - Impacts on passerine (songbird) species; - Impacts on wintering birds, with the exception of golden eagle and black grouse;and,

Topic	Scoped In	Scoped Out
	- Disturbance and displacement; and, - Injury or mortality.	- Impacts on the breeding wader assemblage. Indirect effects on habitats as a result of construction related pollution is scoped out of further assessment.
Noise and Vibration	Construction noise	Operational impacts are scoped out as noise levels are not anticipated to be significant.
Forestry	Potentially significant effects that may result from the construction and operation phases of the Proposed Development include: - Temporary or permanent woodland cover loss and fragmentation; - Potential for windthrow risk and identification of windfirm boundaries; - Potential for forest landscape impact and identification of forest landscape design boundaries; - Reduction or loss of native woodland habitat; and, - Loss of timber volume production due to early felling.	The Proposed Development will not change the forestry land-use of the wider area, therefore it is scoped out.
Traffic and Transport	Potential significant effects during the construction phase within the Study Area include: - Accidents and safety; - Pedestrian amenity; - Pedestrian delay; and, - Driver delay.	Construction impacts beyond the Study Area are scoped out as the volume of construction traffic anticipated is not predicted to result in a significant effect. Operational impacts beyond the Study Area are scoped out as there would be no change to the baseline.
Land Use	None	Construction impacts are scoped out as the impacts are predicted to be minor, temporary and localised. Operational impacts are scoped out as a change in land use would be temporary during construction only and would be reinstated upon completion of the works.
Recreation and Tourism	None	Construction works are unlikely to significantly affect recreation and tourism receptors and standard construction best practice would minimise impacts. Operational impacts are scoped out as the situation would be no different than to the baseline.
Air Quality and Climate Change	None	Construction impacts are scoped out as no significant effects are predicted and impacts would be minimised through standard industry best practice measures.

Topic	Scoped In	Scoped Out
		Operational impacts are scoped out as the situation would be no different than to the baseline.
Material Assets and Waste	None	Construction and operation impacts are scoped out as no significant effects are predicted.
Population and Human Health	None	Construction and operation impacts are scoped out as no significant effects are predicted. The relevant aspects such as Noise and Vibration are scoped in.
Major Accidents and Disasters	None	Construction and operation impacts are scoped out as no significant effects are predicted.
Electric and Magnetic Fields	None	Construction impacts are not applicable. Operational impacts are scoped out as no significant effects are predicted.
Radio and TV Interference	None	Consultation, investigation and assessment was undertaken following the identification of a BT radio link which crosses the existing OHL route and has potential for the proposed OHL route to interfere with the radio link. Through further design and consideration the existing BT line of sight communciation is going to be a minimum of 150 m above the proposed replacement OHL, and so is not considered to be of concern. Construction impacts are not anticipated. Operational impacts are scoped out as no significant effects are predicted.

The Applicant 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?

Responses to this Scoping Report should be directed to the ECU of the Scottish Government to ensure all responses are collated and included within the Scoping Opinion. Responses should be directed to: Econsents_Admin@gov.scot

When submitting a response to the Scoping Report, the Applicant would be grateful if you could also send a copy of your response to: dan.thomas@sse.com

Copies of this document can be found online at:

https://www.ssen-transmission.co.uk/projects/dunoon/

1 Introduction

1.1 The Proposals

1.1.1 Scottish and Southern Electricity Networks (SSEN Transmission), operating under licence held by Scottish Hydro Electric Transmission plc, owns, operates and develops the high voltage electricity transmission system in the north of Scotland and remote islands. The licence is held under the Electricity Act 1989 to *'develop and maintain an efficient, co-ordinated and economical electricity transmission system in its licensed area'*.

1.1.2 Dunoon is currently connected to the wider electricity grid network by a twin-circuit 132 kV double circuit overhead line (OHL), supported on steel lattice towers between the existing Whistlefield substation, located north-west of Garelochhead, and the existing Dunoon substation located west of Sandbank, on Holy Loch, a short distance north of Dunoon (**Figure 1.1**).

1.1.3 The existing OHL crosses Loch Long by a 1.4 km span, with four special structures, two either side, forming the crossing. As the existing OHL crosses Loch Long it passes between Transmission Network Operator areas. The transmission line to the west of the Loch Long crossing connecting to Dunoon substation is within SSEN Transmission's licenced area, whilst the OHL on the east of the Loch Long crossing is maintained and operated by Scottish Power Energy Networks.

1.1.4 The existing OHL west of the Loch Long crossing is supported by an old design suite of metal lattice towers which are coming towards the end of their operational life. The OHL route crosses some very steep and exposed terrain, and has a very high fault rate associated with it during high winds due to the design of tower used in the original build. The Applicant has established a requirement to replace the OHL between the existing Dunoon substation and the Loch Long crossing to ensure security of supply.

1.1.5 The Applicant is seeking consent under section 37 (s37) of the Electricity Act 1989[1] to replace the OHL between the existing Dunoon substation and Tower 15, to the west of the Loch Long crossing (hereafter referred to as the Proposed Development). This will comprise of:

- Erection of a replacement twin circuit 132 kV over headline (OHL) using different support structures and predominantly on a new alignment (to allow a continuous electricity supply to Dunoon during the construction period);
- Erection of temporary OHL diversions to facilitate safe erection of the replacement line, close to, or on the existing OHL alignment on constrained sections; and,
- Works at Dunoon 132/33 kV substation to facilitate the connection of the replacement OHL, potentially including an increase in operational area and fenced boundary to accommodate erection of new gantries or a terminal tower.

1.1.6 Certain associated works will also be required including:

- Establishing access for the construction and maintenance of the OHL, i.e. vegetation clearance; upgrading of existing or establishment of new access tracks, potentially using on-site borrow pits;
- Forestry removal to accommodate the Proposed Development, and temporary infrastructure; and,
- Measures to protect road and water crossings during construction (scaffolding etc.).

1.1.7 Should a requirement to underground any section, associated with mitigation for any likely significant effect identified during the EIA, or for any other reason, then this associated cabling development would also be included within the EIA assessment, to cover deemed planning consent as part of the application.

1.1.8 The above forms the basis for this EIA Scoping Report.

[1] The Electricity Act 1989, c29, Section 37

1.1.9 The following works are also required to complete the full refurbishment of the OHL from Dunoon substation to Whistlefield, however they are being consented under different regimes and therefore do not form part of the Proposed Development for this EIA Scoping Report. They will however be considered in terms of cumulative development as discussed in **Section 3.5**:

- Any upgrades required to the special crossing structures or their foundations (T12 - T15);
- Reconductoring of the existing Loch Long crossing, replacing the wires which carry the current and the associated fittings and fixtures, but reusing the four existing special structures which support the Loch Long crossing span. This reconductoring is subject to separate consent under the Marine (Scotland) Act 2010[2]; and,
- Removal of the existing OHL conductors and dismantling of redundant towers.

1.2 The Regulations

1.2.1 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017[3] hereafter referred to as the "EIA Regulations" contain two schedules. Schedule 1 lists projects where EIA is mandatory. Schedule 2 lists projects where EIA may be required "*where proposed development is considered likely to give rise to significant effects on the environment by virtue of factors such as its nature, size or location*".

1.2.2 The Proposed Development falls within Schedule 2 of the EIA Regulations, as it falls under the Schedule 2 definitions:

"(2) an electric line installed above ground—

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

(b) in a sensitive area"

1.2.3 As such, the Applicant proposes to undertake an EIA of this project and an Environmental Impact Assessment Report (EIA Report) will support the application for section 37 consent and deemed planning permission.

1.2.4 An application for consent for the Proposed Development will be made to the Scottish Ministers under section 37 of the Electricity Act 1989[4], along with a request for a direction that planning permission be deemed to be granted under section 57 (2) of the Town and Country Planning (Scotland) Act 1997[5] as amended.

1.3 Sustainability Strategy

1.3.1 A key part of SSEN's Sustainability Strategy[6] is to achieve Biodiversity Net Gain (BNG)[7] as part of project delivery. As such, the ambition is to ensure that activities not only maintain the existing balance that exists but enhance the biodiversity in our area.

1.3.2 For new infrastructure projects, SSEN propose to:

- Ensure natural environment considerations are included in decision making at each stage of a project's development;
- Utilise the mitigation hierarchy to avoid impacts by consideration of biodiversity in project design;
- Positively contribute to the United Nations (UN) and Scottish Government Biodiversity strategies by achieving an overall 'No Net Loss' on new infrastructure projects gaining consent in 2020 onwards and achieving Net Gain on projects gaining consent in 2025 onwards; and,

[2] The Marine (Scotland) Act 2010
[3] The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, No.101.
[4] The Electricity Act 1989, c29, Section 37
[5] Town and Country Planning (Scotland) Act 1997 (as amended), c8.
[6] https://www.ssen-transmission.co.uk/sustainability-and-environment/sustainability-strategy/
[7] https://www.ssen-transmission.co.uk/riio-t2-plan/our-approach-to-implementing-biodiversity-net-gain/

- Work with our supply chain to gain the maximum benefit during asset replacement and upgrades.

1.3.3 BNG is a key consideration feeding into the design and assessment process throughout. It will be assessed and reported in accordance with SSEN Transmission's Biodiversity Net Gain – Technical Assessment Methodology and Associated Guidance, and is separate to the EIA Report.

1.4 Purpose of the EIA Scoping Report

1.4.1 The purpose of this EIA Scoping Report is to ensure that the subsequent EIA is focused on the key impacts likely to give rise to significant adverse effects. As well as identifying aspects to be considered in the EIA this document also identifies those aspects that are not considered necessary to assess further. All relevant environmental issues are identified and to confirm that the assessment process described will meet legislative requirements.

1.4.2 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 it its possible effects on the environment; and,
- Such other information or representations as the person making the request may wish to provide or make.

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

1.4.4 The Applicant 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?

1.5 Scoping Report Methodology

1.5.1 This EIA Scoping Report presents the findings of an initial appraisal of the likely environmental effects of the proposed project on the receiving environment. It provides a basic overview of the baseline conditions as understood at the time of writing and the likely potential effects as a result of the development. Where site survey and further assessment are deemed necessary, the methodologies are outlined in that section. Environmental topics included for initial assessment in this EIA Scoping Report are:

- Landscape and Visual;
- Cultural Heritage;
- Hydrology, Hydrogeology, Geology and Soils;
- Ecology and Nature Conservation;
- Ornithology;
- Noise and Vibration;
- Forestry; and,
- Other Issues (Land Use, Recreation and Tourism, Air Quality and Climate, Material Assets and Waste, Population and Human Health, Major Accidents and Disasters, Electric and Magnetic Fields, and Radio and TV Interference).

1.5.2 The following sections of this EIA Scoping Report aim to provide sufficient detail to characterise the potential interactions between the Proposed Development and the environmental receptors identified. In presenting a rationale for the proposed scope of environmental assessment, this report has taken the sensitivity of the current state of the environment into account, based on an understanding of the baseline conditions. The Scoping Report has also been prepared with reference to the potential magnitude of impacts, considering the typical construction and operational activities, physical characteristics and potential emissions/residues associated with the Proposed Development.

1.5.3 Where there is sufficient evidence to support scoping a topic out of the EIA process, this is presented. Otherwise, where it is considered that there is the potential for likely significant effects, the Scoping Report provides details of the proposed scope or detailed impact assessment, including the approach to further baseline data collection and brief details of the proposed methodology for impact assessment which would be employed for each topic.

2 Description of the Proposed Development

2.1 Introduction

2.1.1 The EIA Report will provide a comprehensive description of the Proposed Development, in accordance with Schedule 4 of the EIA Regulations, for the purposes of describing the likely significant effects and for the purpose of defining the Proposed Development for the application for consent.

2.1.2 The Proposed Development comprises the building of a replacement 132 kV OHL between the existing Dunoon substation and existing Tower 15, to the west of the Loch Long crossing, using different support structures and predominantly on a new alignment (to allow continuous supply to Dunoon during the construction period). The proposed route of the replacement OHL is hereafter referred to as the OHL Route and is illustrated in **Figure 2.1**. Other works to facilitate delivery of the Proposed Development such as temporary line diversions, site access and borrow pits will be located outwith the OHL Route area shown. Detail on these elements are still being determined and will be fully included in the EIA Report.

2.1.3 To facilitate connection of the new OHL to the Dunoon 132/ 33 kV substation, there is a required increase the fenced and operational area of the substation to make room for a new terminal tower or gantries, and associated connection arrangement. Following commissioning of the replacement OHL, the existing OHL will be decommissioned with the redundant towers dismantled and removed.

2.1.4 The Proposed Development passes through the Argyll and Bute Council Local Authority area and the Loch Lomond and Trossachs National Park Authority area.

2.1.5 The environmental constraints in proximity to the Proposed Development are shown on **Figure 2.2** and the internationally designated ecological sites in proximity to the Proposed Development are shown on **Figure 2.3**. The environmental constraints and designated sites are discussed in more detail in **sections 4 – 11** of this EIA Scoping Report.

2.2 Proposed Development

2.2.1 The Proposed Development comprises the build of a replacement twin circuit 132 kV OHL between the existing Dunoon substation and Tower 15 on the existing OHL, to the west of the Loch Long crossing. The build would use modern support structures to improve the reliability of the connection. The Proposed Development includes works required at Dunoon 132/33 kV substation to facilitate connection of the replacement OHL.

2.2.2 **Figure 1.1** shows the OHL Route within which the proposed alignment will be identified. The final alignment will be presented in the EIA Report as the Proposed Development.

2.3 Limits of Deviation

2.3.1 The Limit of Deviation (LOD) is the area either side of the proposed alignment within which micrositing of structures may take place.

2.3.2 Consideration is given to the following principles in defining the LOD for the Proposed Development:

- Presumption towards the optimum LOD whilst providing flexibility for micro-siting during the detailed design phase;
- Presumption towards avoiding sensitive environmental features; and,
- Presumption towards avoiding residential properties.

2.3.3 The LOD will be presented in the EIA Report and will form part of the Proposed Development.

2.4 OHL Design

2.4.1 The s37 application will identify the anticipated tower locations (subject to micro siting). Proposed OHL design information is as follows.

Lattice Steel Towers

The towers to be used for the Proposed Development will be constructed from fabricated galvanised steel and will be grey in colour. The Proposed Development will use a 'L7C' series of lattice steel tower (as shown in **Plate 2.1** below), which can vary in height between 26 m and 44 m (which includes for potential extensions). The maximum tower height based from the current assessments is 38.5 m and to be re-assessed on agreement of the final alignment. Three types of tower are likely to be used within the Proposed Development as follows:

- Suspension towers: These are used for straight sections of OHL where there is no need to manage uplift loads on the support structure;
- Angle/ tension towers: These are used either for straight sections, where there is a need to manage uplift pressures on the support structure, and / or where there is a need to change the direction of the OHL alignment; and,
- Terminal tower: Proposed at Dunoon substation, from which the termination of the OHL to the substation is made.

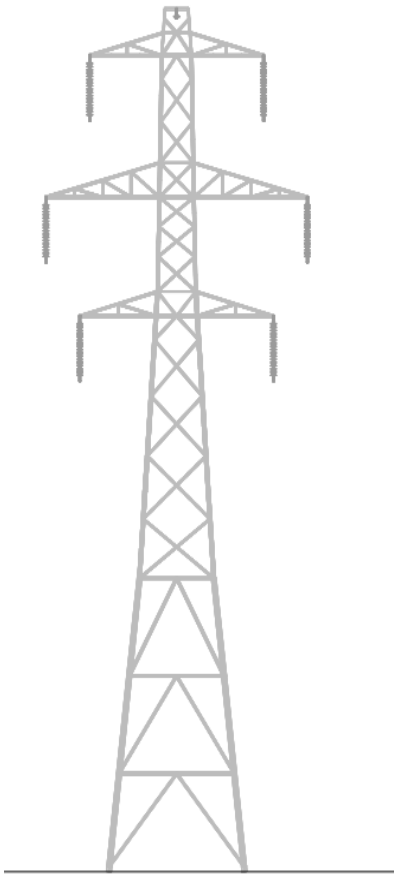

Plate 2-1: Typical Steel Lattice Standard L7(c) Suspension Tower Design

Conductors and Span Length

2.4.2 Towers will carry two circuits, each with three conductors supported from either, glass, porcelain, or composite insulators attached to the horizontal cross arms on both sides of each lattice steel tower. An earth wire with a fibre optic core will be suspended between tower peaks, above the conductors.

2.4.3 The span length (distance between towers) will vary depending on topography, and land usage. The current average span from the initial assessment is 225 m with maximum span of 307 m along the preferred alignment.

Termination

2.4.4 At the southern end of the of OHL it is currently anticipated the last tower of the new OHL will tie into a new terminal tower to make the connection to the existing Dunoon substation. An increase to the fenced and operational area of the substation may be required to provide space for the new connection at the substation, for example, for construction of new gantries. These and other faciliatory works would be progressed as deemed consent under the s37 application.

Cabling

2.4.5 Any section of the replacement circuits proposed to be undergrounded as design mitigation associated with the EIA, or for any other reason, would require cable sealing end structures/ compounds at either end with associated permanent access required. These and other faciliatory works would be progressed as deemed consent under the s37 application.

2.5 Construction Programme

2.5.1 It is anticipated that construction would commence in 2023 (subject to consents and approvals being granted). A provisional construction period of 30 months in total is anticipated, with energisation of the project scheduled for 2025.

2.5.2 The detailed construction phasing and programme would be subject to change as the design progresses and also due to necessary consents and wayleaves being agreed. Further information will be provided in the EIA Report on the indicative construction programme.

Construction Environment Management

2.5.3 A Construction Environmental Management Plan (CEMP) will be prepared and implemented by the Principal Contractor. This document would detail how the Principal Contractor would manage the site in accordance with all commitments and mitigation detailed in the EIA Report, statutory consents and authorisations, and industry best practise and guidance.

2.5.4 The CEMP would also reference the Applicant's General Environmental Management Plans (GEMPs) and Species Protection Plans (SpPPs), that are applied as a standard requirement to all construction sites and practices (applicable GEMPs and SpPPs are provided in Appendix A).

2.5.5 The implementation of the CEMP would be managed on-site by a suitably qualified and experienced Environmental Clerk of Works (ECoW), with support from other environmental professionals as required. SSEN Transmission would also audit and inspect environmental performance to ensure compliance to legislation, conditions and best practices.

2.6 Construction practices and phasing

Phase 1 - Enabling works

Distribution

2.6.1 Works will be required to the existing distribution network infrastructure which are crossed by the OHL. This may include sections of undergrounding existing distribution OHLs.

Road improvements and Access

2.6.2 Access would be required to each tower for delivery of materials, fittings, fixtures, working platforms and plant. Access requirements to each tower would depend on the tower type and the operations required at the tower.

2.6.3 Existing tower access routes utilised by the Applicant's operation and maintenance teams would be used whenever possible. Many individual tower sites would be accessible from public roads and farm/ forestry tracks and in such circumstances normal site vehicles such as 4x4 Hiab wagons, transit vans, 4x4 pickup trucks, quad bikes and tractors would be utilised.

2.6.4 Where there are no public roads or farm tracks, should ground conditions permit, it may be possible in dry weather for the vehicle types indicated above to gain access to certain sites without causing ground surface damage. If damage is likely it may be necessary to undertake access upgrades to allow the use of the above vehicles, or to use specialist low ground bearing pressure vehicles.

2.6.5 Access upgrades and ground protection can be undertaken in a number of ways. The preferred method for each site would be selected by the Principal Contractor based on the suitability to withstand expected construction loads, cause the least environmental damage and be installed/ recovered at the lowest cost. Measures to mitigate the potential impact of each type of access will be addressed in the EIA Report, in general terms.

2.6.6 The range of construction access options likely to be considered include:

- Installation of temporary metal or plastic roadway panels (e.g. Trakway);
- Installation of temporary stone roads on a geo-textile fabric base;
- Upgrading of existing access tracks;
- Use of specialised low ground bearing pressure vehicles; or,
- Installation or modification of permanent access track routes to new (strategic) tower locations to assist with ongoing operation, maintenance and repair of the proposed asset, and where land use/ land management activities can accommodate or benefit from this.

Site Compounds

2.6.7 It is currently anticipated that there would be one main compound required to facilitate construction works (including office provision), the location of which would be confirmed by the Principal Contractor(s) and therefore would not be known nor considered in the EIA. Potential impacts from the compounds would be minimised and controlled via the CEMP, which would be prepared and implemented by the Principal Contractor.

2.6.8 In addition, it is likely that a 'rolling' arrangement for the provision of small sub yards, offices and welfare facilities would be required at convenient positions throughout the OHL Route, each for a short period of approximately four to six weeks duration to supply the work within each local section. The sub yards would be fed from the bulk delivery site. The use of smaller multiple yard sites would minimise the quantity and lengths of journeys required to supply to and recover from each work area.

2.6.9 The obtaining of any necessary planning consent or other authorisations required for the site compounds is usually the responsibility of the Principal Contractor.

Phase 2 – Construction works

Tower Foundations

2.6.10 Different approaches to forming foundations may be used, subject to ground conditions at each tower location.

2.6.11 Foundation types and designs for each tower will be confirmed following detailed geotechnical investigation at each tower position. All tower positions will require foundations at each leg. The foundation type is expected to be a combination of conventional (concrete pad and chimney), and piled type. This assumption is based on an initial geotechnical desktop survey and the anticipated different construction methodologies required due to the varying terrain. Dimensions of pad and chimney foundations will be confirmed following micrositing, but usually consist of formation to depths of between 2.5 m and 4 m below ground level (bgl) and will typically be in the order of 5 m x 5 m in plan size for each tower leg.

2.6.12 Where ground conditions indicate deep peat (>1.5 m/ 2.0 m) or near surface rock, mini-piles and rock anchors may be a more appropriate engineering solutions. Mini-pile solutions typically involve installing up to 6 piles (each between 150 mm and 300 mm diameter) below each tower leg. The piles are encompassed within a near surface pile cap, upon which the tower leg rests. The piles normally extend into the existing bedrock to satisfy both compression and uplift design loadings. Pile depths can extend up to 20 m. Where near surface rock is evident, rock anchors are normally employed. Rock anchors do not require a sacrificial caisson, and the pile cap normally rests on the bedrock. The pile cap is secured to the bedrock by interconnecting mini-piles.

2.6.13 For the purposes of the EIA Report it will be assumed that tower foundations and associated tower construction activities will require a working area of approximately 2,500 m^2 (50 m x 50 m) around each individual tower location. The exact dimensions of the working area around each tower will be confirmed following micrositing and further design.

2.6.14 Where encountered, top soil (including peat) will be stripped from the tower working area to allow installation of tower erection pad(s) as necessary in order to accommodate construction plant. Concrete is likely to be brought to site ready-mixed, although tower locations with difficult and remote access may require limited batching on site. Once the concrete has been cast and set, the excavation will be backfilled, using the original excavated material where possible.

2.6.15 It is anticipated that formation of each tower foundation will take an approximate 4 week period. **Photo 2.1** provides an illustrative image of tower foundation construction.

Photo 2.1: Illustrative Image of Tower Foundation Construction

Tower Construction

2.6.16 Tower construction can commence two weeks after the foundations have been cast, subject to weather conditions and concrete curing rates. Tower steelwork would be delivered to each tower construction site either as individual steel members or as prefabricated panels, depending on the method of installation and the available access.

Conductor Stringing

2.6.17 Prior to stringing the conductors, temporary protection measures, normally netted scaffolds) will be required across public roads and existing access tracks. **Photo 2.2** provides and illustrative image of temporary scaffolding.

Photo 2.2: Illustrative Image of Temporary Construction Scaffolds

2.6.18 Conductor stringing equipment (i.e. winches, tensioners and ancillary equipment) are set out at either end of pre-selected sections of the OHL.

2.6.19 Pilot wires will be pulled through the section to be strung. These will be hung on blocks (wheels) at each suspension tower 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 tower.

Phase 3 - Commissioning

2.6.20 The OHL and support towers 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 substations at Dunoon and Whistlefield before the circuits will be energised and the new OHL becomes operational.

Phase 4 - Reinstatement

2.6.21 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 tower locations and the re-vegetation of all construction compounds etc.

2.6.22 Reinstatement principles are detailed in the Applicant's GEMPs.

Reinstatement of Tower Access Routes

2.6.23 Reinstatement of excavated temporary stone tracks would involve the replacement of subsoil and topsoil, and grading and installation of drainage, as required, with turves replaced vegetation side up. Where there are insufficient turves the ground would be allowed to vegetate naturally, although some seeding may be required to stabilise sites and prevent erosion, or where landowner requirements dictate otherwise. Temporary tracks placed on top of the existing ground level (of floated construction type) may not require any reinstatement measures after removal of the stone and geotextile base.

Reinstatement of Tower Sites

2.6.24 Topsoil will be stored within the working area for each tower during construction. Where possible, turfs will be removed and stored on top of the topsoil bunds for use in the reinstatement. Sub-soils removed to enable the construction of the foundations will be temporarily stockpiled in separate bunds within the working area.

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

Reinstatement of Construction Compound(s)

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

Removal of Existing OHL

2.6.27 Removal of the existing OHL conductors and dismantling the redundant towers will take place following commissioning of the new OHL, however the construction effects associated with the removal of the existing OHL will not from part of the EIA Report as discussed in Section 1.1. The effects will be considered within a separate Environmental Appraisal.

2.7 Construction Employment and Hours of Work

2.7.1 The Applicant takes community responsibilities seriously. The delivery of a major programme of capital investment provides the opportunity to maximise support of local communities.

2.7.2 Employment of construction staff will be the responsibility of the Principal Contractor but The Applicant encourages the Principal Contractor to make use of suitable labour and resources from areas local to the location of the works.

2.7.3 It is envisaged that there will be a number of separate teams working at the same time at different locations within the proposed development corridor. The resource levels will be dependent on the final construction sequence and will be determined by the Principal Contractor.

2.7.4 Construction activities would, in general, be undertaken during daytime periods only. For weekdays, this would involve work between approximately 07:00 to 19:00 in the summer and 07:30 to 17:00 (or as daylight allows) in the winter. Seven-day working would be required for some activities due to the phased nature of the works, limitations of outage availability and working patterns of some contractors.

2.7.5 Any variation in these working hours would be agreed in advance with the Local Authority.

2.8 Construction Traffic

2.8.1 Construction of the Proposed Development will give rise to regular numbers of staff transport movements, with small work crews travelling to and from work site areas. The construction compounds would have a safe area for parking away from public roads.

2.8.2 Vehicle movements will be required to construct temporary or upgraded access roads; deliver the foundation and tower components and conductor materials to the site, and deliver and collect materials and construction plant from the main site compound and to individual tower locations.

2.8.3 The Principal Contractor would determine where access is required, and for which items of plant, and prepare Traffic Management Plans in consultation with the Applicant and the local authorities. Traffic Management Plans would describe all mitigation and signage measures that are proposed on the public road accesses based on access maps and subsequent site assessments.

2.8.4 Temporary traffic lights may be required at some locations (e.g. for delivery of scaffold materials or formation of new road access points). For minor tracks and other crossings, the installation of appropriate warning signs and provision of staff with stop / go boards to control any passing traffic may be adequate.

2.8.5 Table 2-1 below provides indicative worst-case traffic movements for the main construction transportation needs. It assumes that all stone will be imported, however the proposal is to use on-site borrow pits where suitable stone is available.

Table 2-1: Anticipated Construction Traffic Movements on the Public Highway

Delivery/Export	Total Vehicle trips	Timescale
Aggregate delivery	7000	Six month period.
Concrete delivery	1500	Nine month period, three months coincide with aggregate delivery.
Stone removal	4000	Three months towards the end of the project.

2.9 Operation and Management of the Transmission Connection

2.9.1 In general, an OHL requires very little maintenance. Regular inspections are undertaken to identify any unacceptable deterioration of components so that they can be replaced.

2.9.2 The operational corridor of the OHL is also monitored through periodic inspection to identify growth of trees which may compromise the resilience of the OHL. Where trees are identified which could pose a risk to the safe operation of the line in the future, these are felled. Removal of other vegetation, e.g. Gorse and Rhododendron, may be required to ensure the area under the conductors is clear so access can be taken and to facilaite safe maintenance or repair in the event of failure.

2.9.3 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, and towers painted every 15 to 20 years.

3 Methodology

3.1 Introduction

3.1.1 The EIA Report will be prepared in accordance with the EIA Regulations and consideration will also be given to advice contained in the Scottish Government's Planning Advice Note (PAN) 1/2013[8] and Planning Circular 1/2017[9], where relevant.

3.1.2 The EIA will comprise a series of environmental assessments targeted to assess the potentially significant effects which the Proposed Development is likely to have on the environment. Each topic included in the EIA will be incorporated as a separate chapter in the main body of the EIA Report, or included as an appendix if the assessment of the subject matter requires to be more detailed.

3.1.3 On receipt and consideration of this Scoping Report, the ECU will issue the report to the statutory consultees and will issue the findings of their review of the proposed scope of the EIA in the ECU's Scoping Opinion.

3.1.4 The EIA Report will make clear reference to where a point raised in the Scoping Opinion has been addressed. This will include a scoping matrix which will detail all of the consultation responses received during the scoping and EIA process, with a reference to where these responses have been addressed.

3.2 Identification of Baseline

3.2.1 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 and their sensitivities.

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

- Site visits and surveys;
- Desk-based studies;
- Review of existing information; and,
- Consultation with the relevant consultees.

3.3 Assessment of Likely Significant Environmental Effects

3.3.1 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, for example, loss of habitat.

3.3.2 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;
- Value of the affected resource;
- Adherence of the proposals to legislation and planning policy; and,
- Reversibility and duration of the effect.

[8] Environmental Impact Assessment. Planning Advice Note1/2013. Scottish Government. Available at: https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/
[9] Environmental Impact Assessment Regulations. Planning Circular 1/2017. Scottish Government. Available at: https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/

3.3.3 Identification of impacts will consider the magnitude (scale) of change from the established baseline conditions, for the construction stage and operational period of the Proposed Development. As the project concerns construction of permanent infrastructure required for the continuing safe supply of electricity to the wider community, with a view to maintain, repair for perpetuity, or upgrade if required, decommissioning of the Proposed Development is not considered applicable and is scoped out of the EIA.

3.3.4 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.

3.3.5 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 will be presented in the technical chapters and associated appendices where relevant.

3.3.6 The result of the assessment is the determination of whether the likely effect would be significant or not significant, direct or indirect, adverse or beneficial and temporary or permanent. Several criteria will be used to determine whether or not the likely environmental effects of the Proposed Development will be deemed 'significant', including:

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

3.3.7 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

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

3.3.9 Specific criteria have been adopted for certain technical assessments in accordance with widely recognised EIA guidelines published by professional bodies. Where applicable, these are referenced in the respective technical chapters.

3.4 Identification of Mitigation Measures

3.4.1 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.

3.4.2 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 EIA Report.

3.5 Cumulative Effects

3.5.1 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).
- Effects interactions: the combined or synergistic effects caused by the combination of several 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.

3.5.2 The potential for cumulative effects will be considered in relation to other EIA developments for which an application has been submitted or approved within the study area relevant to each particular issue or as otherwise confirmed through the Scoping Opinion. 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 developments to be considered in the cumulative effects assessment will be frozen one month prior to publication and agreed with the local planning authority to allow sufficient time to compile the EIA Report.

3.5.3 Other elements of the wider Dunoon to Whistlefield connection which are under different consenting regimes, as discussed in Section 1, will be included in the cumulative assessment, specifically:

- Reconductoring of the existing Loch Long crossing;
- Any upgrades required to the special crossing structures or their foundations (T12 - T15); and,
- Removal of the existing OHL conductors and dismantling of redundant towers.

3.6 Assumptions and Limitations

3.6.1 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 will change during the construction and operation of the Proposed Development. Site surveys and desk-based data collection will be undertaken during the EIA to supplement this data to bring it up to data for the assessments;
- Information received by third parties is complete and up to date. Further consultation will be undertaken during the EIA where relevant and appropriate to verify existing data and collection additional information;
- The design, construction and completed stages of the Proposed Development will satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge; and,
- The existing tower access routes are not fully defined at this stage and so the constraints and study areas presented in this Scoping Report are based upon the OHL Route. The access routes will be included in the EIA and presented in the EIA Report and the baseline information updated accordingly to reflect this.

4 Landscape and Visual Impact

4.1 Introduction

4.1.1 The landscape and visual impact assessment (LVIA) will identify, predict and assess the likely landscape and visual amenity effects of the Proposed Development. Landscape and visual assessments are separate although linked processes, describing closely related but distinct sets of effects. Landscape assessment considers the effects of change and development on landscape, considered as a resource. Visual assessment is concerned with the views that are available to people who may be affected by the Proposed Development, and their perception and responses to changes in these views.

4.1.2 The assessment will establish the extent of the area that may be affected, the sensitivity of the affected landscape elements and visual receptors to the Proposed Development, and then quantify the magnitude of change that they would experience. The outcome is a professional judgement of the significance of the effect that may be caused by the development to each relevant resource or receptor.

4.2 Study Area

4.2.1 Perceptibility studies[10] have shown that steel lattice tower overhead lines can be noticeably visible from up to 10 km away. The starting point for the study area will therefore be the OHL alignment buffered by 10 km in all directions.

4.2.2 However, the Proposed Development is a replacement OHL, closely parallel to the existing OHL, not the introduction of a new line into an area currently unaffected by an OHL. The Proposed Development would be built to carry a greater load than the existing, and designed to current safety standards, so it will use larger towers than the existing line.

4.2.3 The Study Area will be based on the zone of theoretical visibility (ZTV). A preliminary ZTV is provided in **Figure 4.1**. As visual effects can, by definition, only occur where the Proposed Development may be visible, the Study Area for the visual assessment will be the area identified by the ZTV, which extends to 10 km from each indicative tower position.

4.2.4 For the landscape assessment it is considered that the effects would be more local. As a replacement line the Proposed Development would not change the nature of effect on the landscape (the areas are already affected by the presence of an OHL), but it may alter the magnitude of effect locally and may change the extent of areas most affected at a local scale.

4.2.5 To ensure a focus on potentially significant effects, the landscape assessment will therefore consider the local effects of the Proposed Development on the landscapes traversed by the Proposed Development. The Study Area for the landscape assessment will be developed through fieldwork in the early stages of the LVIA but is unlikely to exceed 1 km from the OHL alignment. However, to allow this to be thoroughly tested, the initial study area for the landscape assessment will be set at 3 km from the Proposed Development and may then be revised in the early stages of the assessment.

[10] Perceptibility of Overhead Steel Lattice Transmission Towers, Collected Papers, Mark Turnbull Landscape Architects 2015

4.3 Baseline Conditions

Landscape Context

4.3.1 The area traversed by, and potentially affected by, the Proposed Development is part of the Cowal Peninsula, a landscape broadly characterised by steep-sided, craggy topped mountains and hills, divided by deep glens, some of which contain narrow lochs, opening into broader straths. The character changes from north to south, with the area north of Strath Eachaig being more rugged, with steeper slopes and crags, whilst to the south of the Strath the landscape is more rounded with gentler slopes.

4.3.2 Extensive conifer plantations dominate the lower slopes (up to altitudes of 300-350 m) and enclose the settled areas, whilst the upper hillsides are predominantly open moorland, with rock outcrops on upper slopes and summits. Mixed through the plantations are remnants of native deciduous woodland, generally birch-dominated on the upper slopes and burn sides and oak woodland on the lower slopes. Parts of Strath Eachaig are characterised by the mature and unusual conifers associated with Benmore Botanic Gardens and the Kilmun Arboretum.

4.3.3 Settlement is mainly confined to narrow strips along the loch edges, valley bottoms, and the flatter land of Strath Eachaig. Mountain and hill tops form landmark features.

Designated and Protected Landscapes

National Parks

4.3.4 The National Parks in Scotland are established under the provisions of the National Parks (Scotland) Act 2000. The Act sets out four National Park aims, to:

- Conserve and enhance the natural and cultural heritage of the area;
- Promote sustainable use of the natural resources of the area;
- Promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public; and,
- Promote sustainable economic and social development of the areas' communities.

4.3.5 Where these aims conflict, the National Park authority must prioritise the first of these aims.

4.3.6 The majority of the Study Area falls within the Loch Lomond and the Trossachs National Park (hereafter called 'the National Park') which was established in 2002, as illustrated in **Figure 2.2**.

4.3.7 NatureScot Commissioned Report 376 *The Special Qualities of the Loch Lomond and The Trossachs National Park* [11] identifies that the National Park is composed of a number of landscapes of differing character, each with their own special qualities. The Study Area lies within the Argyll Forest Landscape Area and the special qualities identified for area that are of relevance to the Proposed Development are:

- A remote area of high hills and deep glens;
- A land of forests and trees;
- Arrochar's mountainous and distinctive peaks; and,
- The variety of glens

[11] Scottish Natural Heritage and Loch Lomond and The Trossachs National Park Authority (2010). The special landscape qualities of the Loch Lomond and The Trossachs National Park. Scottish Natural Heritage Commissioned Report, No.376 (iBids and Project no 648). Available at: https://www.nature.scot/naturescot-commissioned-report-376-special-landscape-qualities-loch-lomond-and-trossachs-national

National Scenic Areas

4.3.8 National Scenic Areas (NSA) are defined as areas of outstanding scenic value in a national context. The nearest NSA is the Kyles of Bute National Scenic Area, which lies just under 10 km from the Proposed Development at its closest point.

Wild Land

4.3.9 Wild Land Areas (WLAs) are the most extensive areas of high wildness, defined and mapped by NatureScot. They are identified as nationally important in Scottish Planning Policy but are not a statutory designation. The nearest WLA is Ben More-Ben Ledi in the north of the National Park, over 20 km to the northwest of the Proposed Development.

Forest Parks

4.3.10 Forest Park is not a formal designation, it is a 'badge' or 'label' originally attributed by the Forestry Commission to areas of attractive forest under its control. It is used by Forestry and Land Scotland to promote forest areas of particular attractive quality and tourist and informal recreation interest. The Argyll Forest Park (hereafter called the 'Forest Park') was established in 1935 and overlaps with the National Park. Within the Study Area it covers the area between the River Eachaig and Loch Long.

Inventory of Gardens and Designed Landscapes

4.3.11 The Inventory of Gardens and Designed Landscapes (GDLs) is maintained by Historic Environment Scotland, so GDLs are considered cultural heritage assets and are appraised as such. Those that are also popular tourist attractions or particularly distinctive local landscapes are considered in their present-day context in this chapter.

4.3.12 The Benmore GDL occupies parts of the hillside where Glen Massan meets Strath Eachaig and much of the strath between Uig and Benmore Home Farm, close to the southern end of Loch Eck. The hillsides of the GDL and parts of the strath are now Benmore Botanic Garden as illustrated in **Figure 2.2** and is located adjacent to the OHL Route.

Argyll and Bute Areas of Panoramic Quality

4.3.13 Local Authorities may designate landscapes considered to be of regional importance for their scenic qualities through a Local Development Plan. Argyll and Bute Council have designated regionally important landscapes as Areas of Panoramic Quality (APQ). Bute & South Cowal APQ, is approximately 10 km to the west of the Proposed Development at its closest point and Loch Long (Coast) APQ is located approximately 2 km to the north.

Landscape and Visual - Landscape Character

4.3.14 The entire Study Area falls within the broad area of landscape defined by Scottish Natural Heritage (now NatureScot) in their Landscapes of Scotland map[12] as Cowal and Bute landscape. This is described as *"a picturesque area of well-wooded, steeply sloping hills and ridges which enclose a series of sea lochs*".

4.3.15 At a finer scale, the Proposed Development would traverse three Landscape Character Types (LCTs) defined by NatureScot in the national map and database[13]. These are:

- LCT 250 - Steep Ridges and Hills.

[12] Scottish Natural Heritage (2012) Landscapes of Scotland Map. available at: https://www.nature.scot/landscapes-scotland-map
[13] NatureScot Scottish Landscape Character Types Map and Descriptions. Available at: https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions Accessed February 2021

- LCT 253 - Straths and Glens.
- LCT 34 - Steep Ridges and Mountains.

4.3.16 The LVIA will consider the landscape at a fine scale, more local than the NatureScot assessment. Provisionally (to be refined in the early stages of the LVIA) these will be based on the finer detail landscape character assessment undertaken on behalf of the National Park[14] and extended south at a similar level of detail:

- Open Hills LCT – the high ground north of Glen Finart and between Glen Finart and Strath Eachaig;
- Glen Finart (Forested Glen Sides and Farmed Strath & Glen Floors LCTs);
- Pucks Glen area (Forested Glen Sides and Forested Upland Glens LCTs, higher sensitivity because of the visitor interest and management as an arboretum);
- Strath Eachaig (Forested Strath & Glen Floor and Farmed Strath & Glen Floor LCTs);
- Rolling forested hills – the forested hillside on the southeast side of Strath Eachaig and south to Finbracken Hill, mostly managed as commercial forestry; and,
- Sandbank – the more open area immediately around Dunoon substation.

Cumulative Assessment

4.3.17 The cumulative visual assessment will chiefly consider schemes within the 10 km study radius but will also identify any schemes within a 15 km radius that would have a significant cumulative effect when combined with the Proposed Development. Given the more local nature of the potential landscape character effects, the cumulative landscape assessment will consider any such schemes within a 2 km radius of the Proposed Development.

4.4 Sensitive Receptors

4.4.1 Within the study area, the range of landscape and visual receptors to be assessed will be identified and agreed with the determining authority and statutory consultees.

Landscape

4.4.2 The provisional list of landscape receptors which will be included in the EIA Report are proposed to be:

- The National Park.
- The Forest Park.
- The landscape traversed by the Proposed Development defined in terms of local landscape character areas for the purposes of this assessment, as listed above and developed and refined in the early stages of the LVIA:
  - Steep hills and ridges (two high ground areas)
  - Glen Finart
  - Pucks Glen arboretum area
  - Strath Eachaig (strath floor)
  - Rolling forested hills (Strath Eachaig to Finbracken Hill)
  - Sandbank area

Visual

4.4.3 The provisional list of visual receptors which will be included in the EIA Report are proposed to be:

[14] SNH commissioned review REV140 - Loch Lomond and The Trossachs National Park landscape character review (A1586281)

Residential receptors

- Villages and hamlets
  - Ardentinny;
  - Sandbank;
  - Invereck;
  - Dalinlongart;
  - Clachaig;
  - Kilmun;
  - Rashfield; and,
  - Uig.
- Scattered residential properties
  - in Glen Finart;
  - along the southern shore of Loch Eck,
  - across Strath Eachaig;
  - in the valley of the Little Eachaig River; and,
  - in Glen Massan.

Recreational and tourist receptors

- Benmore Botanic Gardens;
- Dunoon to Glendaruel & Portavadie cycle route (recently delisted National Cycle Network Route 75);
- Multiple promoted trails, mainly associated with the Forest Park:
  - Puck's Glen;
  - Kilmun Arboretum;
  - Ardentinny trails;
  - Sandbank trails; and,
  - Big Tree walks in the woods opposite the entrance to Benmore.
- Campsites and holiday parks:
  - in Glen Finart; and,
  - along the A815 south of Loch Eck to Dunoon.
- Beinn Ruadh (Graham, destination summit);
- Benmore Outdoor Centre;
- Ardentinny Outdoor Centre;
- Finart Bay / Ardentinny beach; and,
- Core Paths throughout the area.

Transport Receptors

- Main road users on the A815, A885, A880 and the B836; and,
- Minor road users on the Invereck to Glen Massan road and on the Glen Finart road.

4.5 Issues Scoped Out

Visual

4.5.1 None.

Landscape

4.5.2 The effect on landscape character at the scale of units of the LCTs defined by the Nature Scot National Landscape Character Assessment will not be considered, as the magnitude of change from a replacement OHL would be too small to have a significant effect.

4.5.3 The effect on National Scenic Areas, Wild Land Areas and Argyll & Bute Areas of Panoramic Quality will not be considered because the nearest areas are too far from the Proposed Development to be affected.

4.6 Potential Significant Effects

4.6.1 The Proposed Development would introduce a steel lattice tower overhead line similar in character to the existing line, in most places close and parallel to it. However, it would be larger in scale, also newer and thus brighter until such time as it weathers down, and thus potentially both more visible and more intrusive.

4.6.2 Forestry clearance where needed for the operational corridor would change the pattern of the landscape in ways that may be significant.

4.6.3 Construction works would introduce new tracks, some of which may become permanent, which may be intrusive or change the character of the landscape.

Landscape

4.6.4 The Proposed Development would change the scale of, and in most places relocate, a noticeable man-made element in the landscape. Where the Proposed Development passes through forestry, a new operational corridor swathe would be created, which may affect the pattern of the landscape; alternatively the forestry block may be clear-felled and replanted to accommodate the proposed OHL and operational corridor.

4.6.5 The value and sensitivity of most of the landscapes affected is most clearly evidenced by the National Park designation. South of Strath Eachaig the landscape is both less dramatic and slightly less sensitive.

4.6.6 The effect of any development on the landscape depends on the scale at which the landscape character is considered. The Proposed Development is unlikely to significantly affect the character of the landscape when considered at the scale of the NatureScot landscape character types. It is likely, however, to affect the character of the landscape when considered locally – at a scale of a few hundred metres to a kilometre or more from the new line, where the changes would be most clearly perceived.

4.6.7 Across the higher ground the scale of the landscape is such that the change of scale of the line is unlikely to have a significant effect. Across the valleys, however, the Proposed Development may affect the local landscape. In Glen Finart the new and widened swathes through the forestry and woodland have the potential to give rise to significant effects. Likewise, in Strath Eachaig new and widened swathes have the potential to give rise to significant effects, as does the new alignment on the hillside above Ballochyle. In this same area, the removal of the existing line has the potential for a beneficial effect on the local landscape.

4.6.8 The larger scale and more robust nature of the towers for the Proposed Development would intensify the degree of intrusion of an industrial nature in the National Park. This has the potential to give rise to a significant effect on the designated landscape.

4.6.9 During construction, construction activities would have the potential to be intrusive in the landscape locally, giving rise to temporary significant landscape effects.

Visual

4.6.10 The area affected by the Proposed Development is rugged, particularly in the north. Where the line crosses high ground there are open areas with long views, whilst across the valleys views of the line may be constrained or focussed. There is the potential for visual effects up to 10 km from the Proposed Development, although significant effects are more likely within two to three kilometres.

4.6.11 The Proposed Development passes close to the residential receptors listed above where it crosses Glen Finart, Strath Eachaig, and the valley of the Little Eachaig, and in the vicinity of Dunoon substation with the potential for significant effects.

4.6.12 Most of the tourist and recreation receptors in the area (as listed above) are on the low ground of Glen Finart and Strath Eachaig, or the flanks of these valleys. There are no top 'destination summits' (Munros or Corbetts) in the study area but Beinn Ruadh, to the west of the Proposed Development between Glen Finart and Loch Eck is a Graham (mountains in Scotland between 2000 and 2500 feet high, with at least 150 metres of descent on all sides) and thus on some hillwalkers 'tick lists'. There is a network of promoted trails associated with the Forest Park and the unusual trees, as well as a network of core paths, again as listed above, with the potential for significant effects.

4.6.13 There is similarly potential for significant effects on users of the road network particularly for users (including tourists) on the A815 between Sandbank and Loch Eck, on the minor road to Glen Massan, and on the minor road through Glen Finart.

4.6.14 In all cases the potential for adverse effects arises primarily from the presence of new, larger steel lattice towers, which may form an intrusive element in views where a tower was not previously visible or was less noticeable. There is the potential for significant beneficial effects for the receptors in the valley below Ballochyle where the existing line would be removed. The potential also exists for visual effects arising where trees or forestry are removed to accommodate the new line, which may open up views or alter local visual amenity.

Viewpoints and visualisations

4.6.15 The visual assessment will be illustrated with photographs from a selection of key and representative viewpoints, to be agreed with the ECU, Loch Lomond and the Trossachs National Park Authority and Argyll and Bute Council; the preliminary viewpoints are listed below and shown on **Figure 4.1.** Photomontages will be produced from a proportion of these (noted with [**PM**] in the list below).

4.6.16 The assessment, however, will consider the effects on visual amenity across the whole of the area affected, not simply the effects on the agreed viewpoints.

4.6.17 The viewpoints to be included will provide a balance of views from different directions and different distances as well as to pick out key viewpoints. The full list of viewpoints will be agreed early in the LVIA process but is anticipated comprise:

- VP-A The minor road in Glen Finart (in the vicinity of Drynain, view down and across the glen) [**PM]**;
- VP-B Ardentinny Birchwood Trail;
- VP-C Beinn Ruadh [**PM**];
- VP-D Ardentinny or the minor road to the north (if a location can be identified from which there is a reasonably clear view);
- VP-E B833 approaching Coulport (view across Loch Long);
- VP-F Benmore Botanic Garden (from one of the named viewpoints high in the gardens) [**PM**];
- VP-G Puck's Glen (top, where the glen path meets the forest road);
- VP-H A815 between Dalinlongart and Cairnbaan (view towards Ballochyle);
- VP-I From the B836 showing where the line would cross the valley of the Little Eachaig;
- VP-J A815 northwest of Sandbank (potentially by the picnic area below Brox Wood) [**PM**];
- VP-K Kilmun (view across Holy Loch) [**PM**];
- VP-L A815 approaching Sandbank (view towards Dunoon substation); and,
- VP-M Dunan viewpoint (Corlarach loop path, Dunoon).

4.6.18 Photographs (and photomontages) will be presented in accordance with Landscape Institute guidance [15]. Subject to consultation and agreement this would be a panoramic view made up of one or more panoramas, together with a single frame 'standard lens' image focussed on either the nearest part of the line or the most sensitive part of the view.

Suggestions are invited for additional viewpoints, or for changes to the viewpoints proposed.

Nature of the effect

4.6.19 In most instances the Proposed Development is sufficiently close the existing OHL that the change would be an increase in the magnitude of an effect already in existence, and adverse in nature given the larger scale of the new works. Across Strath Eachaig and just south, the Proposed Development takes a different alignment from the existing line, such that some receptors would be subject to a beneficial effect from the removal of the line in a close view, some will be subject to a beneficial change in one direction and an adverse one in another direction, and some receptors will experience the Proposed Development where there is currently no OHL infrastructure.

4.6.20 The subtleties of these different degrees of change and the balance for some receptors between beneficial and adverse effects will be carefully drawn out.

4.7 Assessment Methodology

4.7.1 The landscape and visual assessment will be completed in accordance with the Guidelines for Landscape and Visual Impact Assessment (3rd edition, 2013) (GLVIA3)[16]. Photography and photomontages will be in accordance with current Landscape Institute guidance.

Assessment approach and process

4.7.2 In accordance with GLVIA3 the level of effect and whether it is significant or not will be assessed based on the sensitivity of the affected receptor and the magnitude of change. The sensitivity and magnitude are then considered together in accordance with **Table 3.1** (see Section 3, above) to determine the level of effect and whether or not it is significant. Note that effects can be either beneficial or adverse and, in some cases, neutral (neither beneficial nor adverse).

4.7.3 In all cases the criteria are used as guidelines, not hard and fast rules. The gradations in significance levels are shown as discrete steps but in reality, represent a continuum, and conclusions about the sensitivity of receptors, the magnitude of impacts and the significance of effects are always based on professional judgement.

4.8 Summary

4.8.1 The Proposed Development is considered to have the potential for effects on visual amenity up to 10 km from the proposed OHL, although significant effects are more likely no more than two to three kilometres from the new proposed OHL.

4.8.2 It is considered to have the potential for locally significant effects on the landscape, beneficial in some places, but unlikely to have a significant effect on any unit of LCT, as defined by the NatureScot landscape character assessment. This will be tested through the assessment.

4.8.3 It is considered likely to intensify the adverse influence of development of an industrial nature on the National Park, a notable potential significant effect. Again, this will be tested through the assessment.

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[15] LI Technical guidance note TGN 06/19 Visual Representation of development proposals

[16] Landscape Institute and Institute of Environmental Management and Assessment (2013)

4.8.4 An initial study area limit of 10 km from the OHL is proposed for the visual assessment, this distance based on perceptibility studies for overhead lines. For the landscape assessment an initial study area limit of 3 km is proposed. These limits will be tested in the early stages of the LVIA and may be amended for the EIA Report to ensure a focus on potentially significant effects.

5 Cultural Heritage

5.1 Introduction

5.1.1 The EIA Report will consider the potential for significant effects on sites of archaeological and cultural heritage interest resulting from the Proposed Development. It will also form the basis for initial consultation with Historic Environment Scotland (HES) and the West of Scotland Archaeology Service (WoSAS) who advise both Argyll and Bute Council and the Loch Lomond and Trossachs National Park Authority on archaeological matters.

5.2 Baseline

5.2.1 The designated cultural heritage assets along the Proposed Development and within a 3 km study area surrounding it are listed in **Table 5.1** and illustrated on **Figure 2.2 Environmental Constraints**. A 3 km study area was applied around the Proposed Development to take into consideration the potential for indirect (setting) impacts on assets.

5.2.2 An initial review has identified further undesignated assets on the Scottish National Record of the Historic Environment (SNRHE) within 250 m of the Proposed Development. These include a range of assets dating from the Prehistoric period through to present day. A 250 m study area was applied to the Proposed Development to take into consideration the potential for direct impacts on assets from construction related activities.

5.2.3 It is likely that the number of undesignated assets will increase through consultation with WoSAS, review of the local Historic Environment Record (HER) and through walkover survey of the Proposed Development.

Table 5-1: Cultural Heritage Assets in proximity to the OHL Route

Location of assets	Asset designation
Within 3 km of the OHL Route	**6 Scheduled Monuments** • Carrick Castle (SM2495) • Adam's Cave, Chambered cairn (SM6552) • Dun Daraich, fort (SM9190) • Ardnadam, settlement, chapel and enclosure (SM3235) • Dunloskin Wood, platfoms and charcoal production area (SM3894) • Kilmun Collegiate Church, tower and burial ground (SM5260) **1 Inventory Garden and Designed Landscape (GDL)** • Benmore (Younger Botanic Garden) (GDL00056) **2 Conservation Areas** • Clachaig Conservation Area (CA489) • Dunoon Conservation Area (CA464) **79 Listed Buildings** • 6 Category A Listed • 34 Category B Listed • 39 Category C Listed There are also a number of undesignated Cultural Heritage assets listed on the SNRHE. Predominantly post-Medieval assets. Likely to be further assets identified through Site survey work and HER data requests.

5.3 Sensitive Receptors

5.3.1 The sensitive receptors relative to the cultural heritage assessment are the designated and undesignated cultural heritage assets that may be impacted directly by the Proposed Development. The likely causes of these physical impacts will relate to the construction of access tracks or other required temporary works during the construction phase.

5.3.2 An initial assessment identifies the following as sensitive receptors that may be affect by the Proposed Development:

- Dun Daraich, fort (SM9190);
- Kilmun Collegiate Church, tower and burial ground (SM5260);
- Adam's Cave, chambered cairn (SM6552);
- Ardnadam, settlement, chapel and enclosure (SM3235);
- Dunloskin Wood, platforms and charcoal production area (SM3894);
- Benmore (Younger Botanic Garden) (GDL00056);
- St Munn's Parish Church (LB5073); and,
- Kilmun, Old Kilmun House (LB6582).

5.3.3 Further undesignated Cultural Heritage assets are classed as sensitive receptors and are listed on the SNRHE. These vary from Prehistoric settlements and funerary sites through to Post-Medieval settlements and infrastructure. Further assets are likely to be identified through the site survey and HER data requests.

5.4 Issues Scoped Out

5.4.1 The direct and indirect impacts during construction and operation of the Proposed Development on World Heritage Sites, Marine Protected Areas and Inventory Battlefields will be scoped out of the cultural heritage assessment as there are none which cross the Proposed Development or are located within the 3 km study area.

5.4.2 Assessment of direct impacts to Listed Buildings and GDLs will be scoped out as there will be no direct impacts on any Listed Buildings or GDLs. The replacement OHL was routed to avoid any impacts on the Benmore (Younger Botanic Gardens) GDL (GDL00056) during the routing and alignment optioneering.

5.5 Potentially Significant Effects

5.5.1 Taking account of the findings of the desk study undertaken to date, whilst adopting a precautionary approach at this preliminary stage, potential effects on the cultural heritage resource associated with the construction and/or operation of the Proposed Development include:

- Direct (physical) effects on undesignated cultural heritage sites or features within the Proposed Development;
- Physical disturbance of known or hitherto undiscovered sites or features, including unforeseen buried remains of archaeological interest;
- Effects on the setting of cultural heritage assets, resulting from intervisibility between the asset and the Proposed Development; and,
- Cumulative effects on the setting of cultural heritage assets from the Proposed Development in combination with other Proposed Developments in the locality.

5.6 Assessment of Effects, Mitigation and Residual Effects

5.6.1 The Cultural Heritage assessment will be supported through the production of a fully illustrated archaeological desk-based assessment. This will include a detailed baseline compiled through a broad and standard range of data sources, including the HER, the National Heritage List and Scottish National Record for the SNRHE, local authority data sources along with published works and cartographic sources, and topographic, geology and geotechnical data, where available.

5.6.2 A site walkover will be undertaken to assess the visible archaeological and built heritage resource and archaeological potential of the Proposed Development, with the results included within the assessment. This will allow for the determination of whether previously unrecorded historic features are present on-site. The results of any new archaeological sites will be discussed with WoSAS and HES.

5.6.3 The significance of an effect is assessed by looking at what the changes will be against the existing, or predicted, baseline as a result of the Proposed Development. The method for assessing significance of effect will be based on the environmental value (or sensitivity) of a receptor and the magnitude (degree of change) of the impact. Sensitivity will be assessed as high, medium, low, or negligible, and magnitude will be assessed as substantial, moderate, slight, or negligible[17]. The work will be undertaken in accordance with the standards set by the Chartered Institute for Archaeologists (CIfA), as well as the HES's Guidance on Managing Change in the Historic Environment. All elements of the assessment will also be undertaken in accordance with the following policies and guidelines:

- Standards and Guidance for Historic Environment Desk Based Assessment, CIfA 18; and,
- Standards and Guidance for commissioning work on, or providing consultancy advice on, archaeology and the historic environment, CIfA [19].

5.6.4 Implementing accepted good practice during the design and construction phases of the Proposed Development will ensure that many potential effects on cultural heritage can be avoided or reduced. Measures will be embedded into the design to ensure that access tracks and temporary works avoid assets where possible.

5.6.5 The results of the assessment will determine the requirement for any appropriate mitigation measures for the protection of the cultural heritage resource or, where necessary, the investigation and recording of any sites likely to be affected by the Proposed Development where preservation in situ cannot be achieved.

5.7 Summary

5.7.1 The cultural heritage assessment will focus on the direct impacts of the Proposed Development on the designated and undesignated assets crossed by the OHL Route, as well as those that may be impacted by potential access tracks or temporary works during construction.

5.7.2 The proposed approach to the assessment has been designed to identify and evaluate any cultural heritage assets present within the Proposed Development, through examination of desk-based sources and detailed filed survey, and to identify key heritage assets within 3 km of the Proposed Development.

5.7.3 The effects of the Proposed Development (direct and indirect impacts) on heritage assets will be assessed and mitigation measures, where appropriate, would be proposed to prevent, reduce or offset any likely significant adverse identified. Cumulative effects from the Proposed Development in combination with other proposed developments (as discussed in **Section 3.5**) would also be considered, where appropriate.

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[17] The assessment criteria have been determined through a combination of HES (SNH & HES, 2018) and ICOMOS guidance (ICOMOS 2010), with the most recent revision of the Design Manual for Roads and Bridges LA104 (2019) incorporated to allow for greater definition of the magnitude of impacts and to include the possibility of beneficial impacts within the assessment methodology.

[18] Chartered Institute for Archaeologists, 2017, Standards and guidance for desk-based assessment.

[19] Chartered Institute for Archaeologists, 2014, Standards and guidance for archaeological advice by historic environment services

6 Hydrology, Hydrogeology, Geology and Soils

6.1 Introduction

6.1.1 The EIA Report will assess the potential effects relating to Hydrology, Hydrogeology, Geology and Soils in relation to the construction and operation phases of the Proposed Development.

6.2 Baseline

6.2.1 A desk study and data search will be undertaken to identify the baseline environment, including information on solid and superficial geology, surface water and groundwater, flood risk and designated sites.

6.2.2 The initial review indicates that the Proposed Development crosses three catchments, classified by SEPA under the Water Framework Directive[20], although this will be confirmed as part of the assessment. These are the:

- River Finart;
- River Echaig; and,
- Little Eachaig River/Cruach Neuran Burn.

6.2.3 The majority of the OHL Route falls within the Loch Lomond and The Trossachs National Park[21]. Upper Loch Fyne and Loch Goil Marine Protected Area (MPA) lies 500m north and upstream of the OHL Route. Lock Eck Site of Special Scientific Interest (SSSI) is located approximately 2 km northwest of the OHL Route and is not hydrologically connected to the Proposed Development.

6.2.4 Private Water Supplies (PWS) are known to be present in the areas surrounding the OHL Route. According to information supplied by Argyll and Bute Council and the landowners' consultation, there are six PWS, two in the vicinity of Barnacabber, one south west of Ardentinny and three in the vicinity of Ballochyle. According to the Scottish Government website[22], there are two Drinking Water Protected Areas (DWPA) within 2 km of the OHL Route. These DWPA are not hydrologically connected to the Proposed Development. Further information will be sought from Scottish Water, SEPA and landowners to inform the assessment of effects on water supplies.

6.2.5 There are sections of the OHL Route located in areas subject to flooding, based on SEPA indicative flood risk mapping[23]. An initial review indicates the OHL Route crosses areas of high surface water flood risk in Glen Finart, River Echaig and the Little Echaig River floodplains.

6.2.6 There are areas of high risk of river flooding in the majority of Glen Finart and the Stronchullin Burn catchment, and very extensive areas in the coastal floodplains of the River Echaig and the Little Eachaig River.

6.2.7 High risk of coastal flooding is noted in the lowest part of Glen Finart, and very extensive coastal flood risk in the coastal floodplain of the River Echaig and the Little Echaig River.

6.2.8 The likely presence of potential Groundwater Dependent Terrestrial Ecosystems (GWDTE) will be considered when National Vegetation Classification (NVC) information becomes available as part of the EIA.

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[20] SEPA (2018). Water Classification Hub [online]. Available at: https://www.sepa.org.uk/data-visualisation/water-classification-hub/

[21] NatureScot (2021). SiteLink Map [online] Available at: https://sitelink.nature.scot/map

[22] Scottish Government (2014). Drinking water protected areas - Scotland river basin district: map 2 [online]. Available 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/f9cd68d5-a8c1-4f24-93f6-189435d266fd/f9cd68d5-a8c1-4f24-93f6-189435d266fd/govscot%3Adocument/DWPA%2B-%2BScotland%2BRBD%2B-%2Bsurface%2Bwater%2B-%2Bmap%2B2%2Bof%2B22.pdf

[23] SEPA (2018). Flood Maps [online] Available at: http://map.sepa.org.uk/floodmap/map.htm

6.2.9 The OHL Route is underlain by the Cowal and Lomond Groundwater Body (ID: 150689)[24], which was classified by SEPA as having 'Good' overall status in 2018.

6.2.10 British Geological Survey (BGS) Geology[25] confirms the OHL Route is underlain by Beinn Bheula Schist Formation with small areas of Mull Dyke-Swarm and North Britain Siluro-Devonian Calc-Alkaline Dyke Suite also present across the OHL Route. Superficial deposits are largely absent across the majority of the OHL Route, with no superficial peat deposits noted in the Site.

6.2.11 Based on NatureScot mapping[26], the majority of the OHL Route is located within Class 0 (mineral soil), which is not classified as peatland habitat. Classes 1 and 2 (nationally important carbon-rich soils, deep peat and priority peatland habitat) are noted in higher altitudes, at the Meall Dubh, Stronchullin Hill, Ballochyle Hill and Strone Saul.

6.3 Sensitive Receptors

6.3.1 The sensitive receptors within the OHL Route include surface water and groundwater features, private water supplies and soils. GWDTE may be present and specific NVC communities may be considered sensitive to the Proposed Development.

6.4 Issues Scoped Out

6.4.1 It is considered that good design and embedded pollution prevention mitigation including the Applicant's GEMPs will minimise the potential for pollutants or sediment to be released into waterbodies as a result of the Proposed Development. As a result, it is considered likely that the following construction effects can be scoped out:

- Pollution of surface watercourses and groundwater: including from suspended sediment in surface water bodies, hydrocarbon and oil pollution;
- Impact on hydrologically relevant designated sites from chemicals, fuels and sedimentation pollution to groundwater and surface water, changes on groundwater flows and levels and surface water drainage patterns; and,
- Impact of pollution on fisheries: including from suspended sediment in surface water bodies, hydrocarbon and oil pollution.

6.4.2 After taking into account the location of the OHL Route, the following effect was considered to be unlikely to be significant and thus was scoped out of the assessment:

- Mobilisation of contaminated soil / bedrock.

6.5 Potentially Significant Effects

6.5.1 Potentially significant effects that may result from the construction phase of the Proposed Development are:

- Impacts on private water supplies both in terms of water quality and security of supply;
- Flooding - including from the obstruction of watercourses during construction and forestry works associated, and the increased runoff due to soil compaction;
- Operational impacts on groundwater levels and flows as a result of the proposed permanent access tracks;
- Soil erosion, compaction and excavation losses during access or construction;

[24] SEPA (2018a). Water Classification Hub [online] Available at: https://www.sepa.org.uk/data-visualisation/water-classification-hub/ [Accessed 20th September 2021]
[25] BGS (2019). BGS Geoindex Onshore. [online]. Available at: http://mapapps2.bgs.ac.uk/geoindex/home.html [Accessed 20th September 2021].
[26] Nature Scot (2021). SiteLink [online] Available at: https://sitelink.nature.scot/map [Accessed 20th September 2021]

- Impact on water resource availability, including impacts to groundwater levels from any dewatering required; and,
- Modifications to groundwater conditions, including levels and flows, which may cause alteration to receptors such as GWDTE or groundwater-fed water supplies.

6.6 Assessment Methodology

6.6.1 The assessment of effects will be carried out in accordance with the principles contained within the Applicant's GEMPs as well as a range of standard guidance documents from Construction Industry Research and Information Association (CIRIA), Forestry and Land Scotland (FLS), SEPA, NatureScot, the Scottish Government and Scottish Renewables relating to water pollution, abstractions, watercourse crossings, sustainable drainage, peat management and forestry.

6.6.2 The following tasks will be undertaken in the completion of the assessment:

- Data request from relevant stakeholders, including SEPA, Scottish Water and relevant local authorities;
- Desk-based study to obtain baseline and historical data;
- Identification of the potential impacts of the Proposed Development and assessment of their significance based on the magnitude of the impact and the sensitivity of receptors; and,
- Identification of options for the mitigation of potential effects in accordance with applicable legislation, policies and guidance.

6.6.3 The desk-based study will be designed to assist in determining the baseline characteristics within the specified study areas and will collate baseline information from available sources. The desk-based study will typically involve the following elements:

- Use of OS maps to identify watercourse catchments, water bodies, springs and boreholes within 1 km of the Proposed Development;
- Identification of any relevant designated or protected sites within 1 km of the Proposed Development;
- Collation of historical hydrological and flooding information (where available);
- Review of SEPA flood risk areas;
- Collation of preliminary data on public and private water abstractions and discharges, assumed to be made available upon request to local authorities;
- Collation of available meteorological data for the Western Scotland climate region;
- Collation of available surface water and groundwater quality data for the region;
- Interpretation and collation of GWDTE information; and,
- Collation of current land use information.

6.6.4 The impact assessment will be undertaken in accordance with the EIA Regulations and the significance of effects will be determined in accordance with the criteria set out in Section 3.3 of this Scoping Report.

6.6.5 Given the limited degree of disturbance likely to be associated with the Proposed Development, there is the opportunity to avoid discrete areas identified of concern by utilising data collated during pre-construction peat probing surveys to inform the micro-siting of towers. It is not considered appropriate to undertake a more formal Peat Landslide Hazard and Risk Assessment (PLHRA) given that the Proposed Development's potential to impact upon peat is limited to the proposed steel lattice towers and permanent access tracks; however should peat probing surveys and subsequent study identify the potential for peat landslide, a targeted PLHRA will be undertaken.

6.6.6 An Outline Soil and Peat Management Plan (SPMP) is proposed to define the likely excavation volume based on the Proposed Development's layout and underlying peat conditions, which will evaluate options to minimise/ re-use excavated volumes. The findings of this Outline SPMP will be used by the appointed Principal Contractor as a basis for preparing the detailed construction SPMP, as part of a Construction Environmental Management Plan (CEMP) during construction.

6.6.7 A GWDTE assessment will be completed as part of the EIA Report, and the assessment will be informed by the findings of the UKHab habitat survey and hydrogeological information from BGS.

6.6.8 The Proposed Development will be assessed for flood risk in line with Scottish Planning Policy. A basic flood risk assessment will be undertaken, which will involve a review of previous flood risk assessment and current SEPA flood risk mapping.

6.7 Summary

6.7.1 The above provides a comprehensive summary of the tasks to be undertaken during the EIA with regards to Hydrology, Hydrogeology, Geology and Soils. Any effects likely to have a significant effect on the sensitive receptors, such as pollution of surface watercourses, groundwater and private water supplies, will be evaluated within the EIA Report.

6.7.2 A high-level approach will be adopted to the assessment considering the geographical extent of this study, and the nature of the Proposed Development. Mitigation measures will be proposed, where required, for likely significant effects. In this case, we would anticipate the main issues to be potential water quality impacts to private water supplies, potential pollution impacts to water bodies resulting from access and construction activities, and potential loss of GWDTE.

7 Ecology and Nature Conservation

7.1 Introduction

7.1.1 The EIA Report will consider the potential effects of the Proposed Development on non-avian nature conservation designated sites, habitats and species along the proposed OHL route 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.

7.1.2 As described in Section 1.3 Biodiversity Net Gain (BNG) is a key part of SSEN's Sustainability Strategy and the principles of BNG will feed into the design and assessment process as informed by the results of ecological desk and field studies in accordance with SSEN Transmission guidance on BNG.

7.2 Baseline Conditions

7.2.1 A desk study has been carried out which used publicly available data sources including NatureScot Sitelink[27], Scotland's Environment Webmap[28], Ordnance Survey and aerial mapping and a biological record centre data search from the Argyll Biological Records Centre. In addition, consultation has been undertaken with Loch Lomond and the Trossachs National Park Authority and nature conservation organisations including NatureScot, Botanical Society of Britain and Ireland (BSBI), Butterfly Conservation and the Scottish Wildlife Trust.

7.2.2 A site walkover was undertaken by ecology specialists in July 2020 as part of the routeing stage to ground-truth the key constraints identified by the desk studies (including ancient, nearly native and native woodlands, Craighoyle Woodland SSSI, Loch Eck SSSI and watercourses). Survey work including detailed habitat surveys, protected species surveys and freshwater pearl mussel surveys are currently ongoing.

7.2.3 Information obtained to date indicate that there are statutory and non-statutory designated sites and notable habitats present within the proposed OHL route; and that a number of protected and notable species are present or likely to be present, as set out in section 7.3.

7.3 Sensitive Receptors

7.3.1 The desk study has identified the following statutory and non-statutory designated sites within a 2 km buffer of the proposed OHL route and which could be affected by the construction and/ or operation of the Proposed Development:

- Loch Eck Site of Special Scientific Interest (SSSI) which is notified for its population of powan and Arctic charr fish species;
- Craighoyle Woodland SSSI (notified for its ancient deciduous woodland which supports nationally important bryophyte and lichen assemblages);
- Upper Loch Fyne and Loch Goil Marine Protected Area (MPA) whose protected features include: burrowed mud; flame shell beds; horse mussel beds; Sublittoral mud and specific mixed sediment community habitats and aggregations of ocean quahog clam;
- Holy Loch Local Nature Reserve (LNR) and Local Nature Conservation Site (LNCS) notable for its shoreline and estuarine habitats; sea and shore birds and marine mammal assemblage which includes porpoise, basking sharks and minke whales;
- Various areas of ancient and long-established woodland (included on the Ancient Woodland Inventory) and woodlands which classify as native or nearly native are also present;

[27] Available at https://sitelink.nature.scot/map.

[28] Available at https://map.environment.gov.scot/sewebmap/.

- Valuable peatland habitats may also be present; and,
- The OHL Route also passes through Loch Lomond and the Trossachs National Park and Argyll Forest Park which are landscape designations for which nature conservation features are an integral part.

7.3.2 Legally protected and notable (e.g. Scottish or local biodiversity priority, rare or vulnerable) flora could be present within semi-natural habitats along the proposed OHL route.

7.3.3 Species which are protected by law or otherwise notable (e.g. Scottish or local biodiversity priorities, rare or vulnerable) which could be affected by the Proposed Development include:

- Bats;
- Badger;
- Red squirrel;
- Pine marten;
- Otter;
- Water vole;
- Reptiles such as slow-worm, adders and common lizard;
- Amphibians such as great crested newt, common toad, common frog, smooth newt and palmate newt;
- Fish species including sea and brown trout, Atlantic salmon, powan and European eel; and,
- Freshwater pearl mussel.

7.3.4 Invasive non-native species of flora and fauna (those considered to be outside their native range) are also present along the proposed OHL route and these species include larch trees infected with *Phytophthora ramorum*, butterfly bush (*Buddleja* sp.), *Rhododendron ponticum* and western hemlock (*Tsuga heterophylla*).

7.4 Issues Scoped Out

7.4.1 Since the existing 132kV OHL will be rebuilt the potential for impacts on bats resulting from the presence and operation of towers and power lines has been considered. A review of existing studies on this issue[29] (covering the same species as would be anticipated to be present on or adjacent to the proposed OHL route) indicates that there are unlikely to be discernible adverse effects on bats. As such operational impacts on bats are scoped out.

7.4.2 The range over which effects could be realised on ecological interests depend on factors such as effect pathways (e.g. hydrological connectivity), the sensitivity of species/ habitats (e.g. typical disturbance distances), and their ecology (e.g. territory size, supporting habitat) and the range is referred to as the Ecological Zone of Influence (EZoI). The EZoI would be specific to each designated site, species or habitat.

7.4.3 Construction impacts on Loch Eck SSSI are scoped out since the SSSI is located almost 2 km to the west of the Proposed Development. The proposed OHL route and temporary access routes are to the east of the

[29] E.g. EirGrid Evidence Based Environmental Studies Study 3: Bats (Dec 2015). Literature review and evidence based field study on the effects of high voltage transmission lines on bats in Ireland. Available at http://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid-Evidence-Based-Environmental-Study-3-Bats.pdf.

watershed and there is no risk of hydrological connectivity with the SSSI. Similarly, the Craighoyle Woodland SSSI has been scoped out due to this feature being outside the proposed OHL route.

7.4.4 Similarly, construction impacts on the Upper Loch Fyne and Loch Goil MPA are scoped out because the closest point of the proposed OHL route (Tower 15) is 1 km south of the MPA boundary and is not hydrologically linked to Loch Goil.

7.4.5 Holy Loch LNR and LNCS can be scoped out on the basis that on the basis that water quality of watercourses which feed into the Holy Loch will be protected as defined in Section 7 (Hydrology).

7.4.6 Ancient woodland and peatland habitats and the National Park and Forest Park listed above cannot be scoped out due to them being located inside the EZoI.

7.4.7 Construction impacts on agricultural land and built-up areas within the ecological study area have been scoped out due to being of low ecological value when considered in isolation. It is recognised that these managed landscapes offer resources for protected and notable species (e.g. badger, bats); this would be captured in any assessment of effects on these species as important ecological features. Further, general ecological protection measures will be captured in the Construction Environmental Management Plan (CEMP).

7.4.8 All operational impacts on other ecological receptors are scoped out as the post-construction situation will not be different (in ecological terms) from the current baseline situation, assuming that potential operational impacts resulting from maintenance work such as clearance of the operational corridor and tracking across land would be assessed and controlled in accordance with prevailing legislative, policy and best practice guidance.

7.5 Potential Significant Effects

7.5.1 Potential significant effects of the Proposed Development to features within an EZoI during construction are anticipated to be as follows:

- Temporary or permanent direct or indirect loss of, or damage to sensitive terrestrial and aquatic habitats including woodland[30], peatland, coastal and estuarine habitats;
- Killing and injury of protected and notable species during construction and advance site clearance activities;
- Temporary or permanent loss of, obstruction of, or disturbance to legally protected and notable species' resting sites;
- Temporary or permanent loss of, modification, fragmentation or disturbance to protected species foraging areas and commuting routes including but not limited to red squirrel;
- Pollution to habitats with indirect effects on associated protected and notable species; and,
- Spread of invasive non-native species with indirect effects on associated flora and fauna.

7.5.2 Construction effects are anticipated to be largely temporary, low magnitude and localised. Significant effects should be possible to avoid if appropriate mitigation is included in the design, planning and implementation of the Proposed Development. The requirement for mitigation will be identified and designed in conjunction with other geo-environmental and engineering inputs and once ecological survey work is complete.

7.6 Assessment Methodology

7.6.1 Based on the data collected from the consultation and desk-based study, together with a review of relevant data already obtained on the Site, a range of surveys are proposed to be undertaken (some of these are already complete or underway at the time of writing) and these are listed in Table 7.1.

[30] In line with Scottish policy on woodland removal available at: https://forestry.gov.scot/support-regulations/control-of-woodland-removal.

Table 7.1: Ecology surveys and outline methodology

Ecological feature	Comments
UKHab habitat survey and Habitat Condition Assessment (HCA)	HCA for the purpose of Biodiversity Net Gain uses the Higher Level Stewardship: Farm Environment Plan (FEP) Manual (3rd Edition – March 2010).
Protected species habitat suitability surveys	Suitability of terrestrial and riparian habitats to support protected species was assessed at route alignment selection stages.
Targeted surveys for bats, otter, water vole, pine marten, badger and red squirrel	Surveys undertaken in accordance with CIEEM competencies for species survey[31].
Targeted surveys for freshwater pearl mussel	Surveys carried out under licence.

7.6.2 The results from these surveys will be used as required to inform any subsequent assessment, including those to be undertaken by other disciplines (e.g. peat will be covered in the hydrology assessment). The information will also provide evidence to support habitat management, monitoring and mitigation proposals and likely licensing requirements.

7.6.3 The ecological impact assessment (EcIA) will be completed in accordance with the Chartered Institute of Ecological and Environmental Management (CIEEM) Ecological Impact Assessment Guidance (2019). The assessment will use the ecological baseline to identify the important ecological features (IEF) that could be affected by the construction or operation of the Proposed Development. Each IEF 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 IEF is likely to receive and whether or not that impact will be beneficial or adverse, significant or negligible, and temporary or permanent.

7.6.4 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 EIA Report.

7.7 Summary

7.7.1 Desk study results and consultations will be interpreted in combination with targeted field surveys of sensitive areas and it is anticipated that this approach will provide sufficient current information to inform a robust EcIA. Any actions likely to have a significant effect on important features, such as vegetation clearance, earthworks, creation of new access tracks and permanent foundations on bog and wetland habitats or pollution of surface watercourses, will be evaluated within the EIA Report. The EIA Report will address all potential impacts during construction and design essential mitigation to reduce effects which could result in residual impacts which are not significant in EIA terms.

7.7.2 There are not anticipated to be any significant effects during operation relating to the Proposed Development and therefore this aspect is proposed to be scoped out of further assessment.

[31] Set out in https://cieem.net/resource/competencies-for-species-survey-css/

8 Ornithology

8.1 Introduction

8.1.1 The EIA will consider the potential effects of the Proposed Development on nature conservation designated sites, habitats and species along the route 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.

8.2 Baseline Conditions

8.2.1 A desk study was undertaken to identify statutory and non-statutory designated sites with ornithological features within a 2 km buffer of the OHL Route and which could be affected by the construction and/or operation of the Proposed Development. The search area was extended to 10 km and 20 km respectively for European sites and European sites with goose qualifying features.

8.2.2 NatureScot, the Royal Society of the Protection of Birds (RSPB), Forestry and Land Scotland (FLS) and the Argyll Raptor Studies Group (RSG) were consulted to obtain ornithology data and reports relevant to the Proposed Development. Data were requested from within the last ten years within a 2 km buffer of the OHL Route, extending to 6 km for golden eagle[32].

8.2.3 NatureScot was consulted at an early stage to determine an appropriate ornithology survey scope to inform the EIA. Based on this consultation and a review of the data collected from the consultation and desk-based study, a suite of ornithology surveys was undertaken in accordance with NatureScot guidance. Ornithology surveys were conducted within specific distances of the OHL Route. The following surveys were undertaken:

- Flight activity surveys across both the wintering and breeding periods. A total of three VPs was surveyed during the wintering period (December 2020 to February 2021)[33] and four during the breeding period (March to August 2021) with 36 hours of survey effort[34] undertaken for each VP per season. Flights at heights of between 10 and 50 m above ground level that crossed the OHL Route were considered to be at Potential Collison Height (PCH).
- Wintering walkover surveys: Three survey visits across a survey area encompassing the OHL Route plus a 500 m survey buffer from November 2020 to early March 2021.
- Moorland breeding bird survey: Four survey visits across the OHL Route plus a 500 m survey buffer between late April and early July 2021.
- Scarce breeding bird survey: Four survey visits across the OHL Route plus a 2 km survey buffer between April and July 2021.
- Lekking black grouse survey. Two survey visits across the OHL Route plus a 1.5 km survey buffer during April and May 2021.

8.2.4 Only one designated site with ornithology qualifying features was located within 2 km of the OHL Route, namely the Holy Loch Local Nature reserve (LNR) and Local Nature Conservation Site (LNCS) designated for supporting an overwintering shorebird assemblage. No European sites were identified within the search parameters identified Paragraph 8.2.1.

8.2.5 A summary of ornithology records and information gathered during the desk study is provided below:

- Golden eagle: two golden eagle ranges overlap with the OHL Route, G/C1 and G/A22, as identified in confidential range reports provided by NatureScot. Five breeding sites within 6 km of the OHL Route were returned by the RSG.

[32] In reference to the estimated core range of breeding golden eagle territories.
[33] Wintering period surveys typically commence in September. Wintering flight activity surveys initially scoped out due to anticipated low activity but then included when details provided on nearby golden eagle territorial ranges.
[34] At one VP only 35 hours 25 minutes was undertaken due to adverse weather conditions.

- Hen harrier: records from four breeding sites were returned within 2 km of the OHL Route, with the closest located approximately 450 m north of the Site.
- Black grouse: 16 records were returned from within 2 km of the OHL Route (15 of displaying males and one female).
- Barn owl: records for six breeding sites were returned within 2 km of the OHL Route.

8.2.6 A summary of the ornithology survey results is provided below:

- A total of eleven flights from five species was recorded during the wintering season flight activity surveys:
  - Two black grouse flights, one at PCH;
  - Six golden eagle flights, one at PCH;
  - One golden plover flight at PCH;
  - One hen harrier flight at PCH; and,
  - One peregrine falcon flight at PCH.
- A total of 15 flights from three species was recorded during the breeding season flight activity surveys:
  - Eleven hen harrier flights, six at PCH;
  - Three golden eagle flights, all at PCH; and,
  - One red kite flight not at PCH.
- Observations recorded during the winter walkover surveys primarily comprised common and widespread species. Notable records included:
  - Six records of black grouse in groups of up to three birds including females;
  - Two records of golden eagle including a pair of birds; and,
  - Overwintering waders, including curlew and redshank, at the outer extent of the survey area in the Clyde estuary.
- Very little activity was recorded during the moorland breeding bird survey. Territory analysis is yet to be undertaken but results indicate that a maximum of two common snipe and two common sandpiper territories will likely be identified.
- No breeding territories were identified during the scarce raptor surveys. Notable conclusions include the following:
  - Observations of hunting male hen harrier indicate that an active nest site may be present just outside the survey area.
  - Observations of golden eagle, including pairs of birds, indicate that the survey area is encompassed by at least one golden eagle range.
  - All historic breeding sites, as provided by the RSG and RSPB, were checked but no breeding was evident in these areas.
- Two separate black grouse leks were identified, each comprising of a single displaying male.

8.3 Sensitive Receptors

8.3.1 Based on the results of the desk study and ornithology surveys and a review of potential impacts of the Proposed Development the following sensitive receptors were identified:

- Golden eagle: the OHL Route crosses two known eagle ranges and activity was recorded during surveys to suggest that habitats on or adjacent to the OHL Route supports these birds (e.g. hunting or displaying).
- Hen harrier: data was provided that suggests the wider area has supported breeding hen harrier in the recent past. No breeding territories were recorded during surveys, but extensive hunting activity was recorded on or adjacent to the OHL Route.
- Black grouse: two leks, each of a single male, were recorded during surveys and data provided during the desk study suggest habitats within 2 km of the OHL Route has supported black grouse for a number of years.

- Barn owl: six historic breeding sites were provided during the desk study but none of these sites were recorded as present and/or active during the surveys. An old nest box was recorded at one location all sites were located in plantation woodland that comprises trees of an age/size that are unlikely to support large cavities for nesting. It is assumed that all records were of historic nest boxes. As barn owl are largely nocturnal activity of this species may be under recorded during surveys.

8.4 Issues Scoped Out

8.4.1 The only designated site with ornithological features identified within the potential EZoI of the Proposed Development was the Holy Loch Local Nature reserve LNR and LNCS. Effects on the designated site will be limited to changes in water quality that could result in a degradation of designated habitats. It is considered that embedded pollution prevention mitigation will eliminate the potential for pollutants or sediment to be released into watercourses upstream of the designated site and crossed by the OHL Route. Therefore, based on the above effects on designated sites they are scoped out of further assessment.

8.4.2 Potential impacts on passerine (songbird) species are scoped out of further assessment. Passerines are generally not considered to be at risk from impacts from OHL developments and the majority of species recorded during surveys are common and widespread. Potential impacts of injury or mortality to nests during construction will be mitigated through the implementation of the Applicant's standard Bird Species Protection Plan (SpPP), that stipulates measures including pre-construction checks and work exclusion zones around active nests.

8.4.3 Potential impacts on wintering birds, with the exception of golden eagle and black grouse are scoped out from further assessment. The wintering bird assemblage recorded during the wintering walkover survey and wintering flight activity survey typically comprised common and widespread species. Much of the Site is at relatively high altitude (above 300 m) and no large congregations of waders or wildfowl were recorded in the agricultural fields in the river valleys. All significant congregations of waders/or wildfowl were recorded on the coast beyond the anticipated EZoI from the works. While flight activity vantage points did not cover the river valleys no flocks of wildfowl (e.g. geese) were recorded that could potentially utilise these areas as flight corridors between foraging and roost sites. It is considered that the OHL Route and adjacent areas is of relatively low importance for wintering birds.

8.4.4 Potential impacts on the breeding wader assemblage is scoped out from further assessment. Very few breeding waders were recorded during the moorland breeding bird survey, comprising a maximum of two territories each of common snipe and common sandpiper. It is considered that the OHL Route and surrounding habitat supports a low number of common and abundant breeding waders and therefore a low proportion of their overall national/ regional population.

8.4.5 Potential indirect effects on habitats as a result of construction related pollution is scoped out of further assessment. It is anticipated that construction related pollution effects will be localised (e.g. fuel spills) and at sufficiently low levels that any habitat degradation will be adversely effects ornithology receptors. Habitats that support the majority of ornithology species are widespread and ubiquitous through the OHL Route and surrounding area. It is also considered that embedded pollution prevention mitigation will eliminate the potential for pollutants or sediment to be released into watercourses.

8.5 Potential Significant Effects

8.5.1 Based on the results of the desk study and ornithology surveys it is anticipated that potential significant effects will be limited the following ornithological receptors; golden eagle, hen harrier, black grouse and barn owl.

8.5.2 The following potentially significant effects could occur during construction of the Proposed Development:

- Loss or degradation of habitats due to the felling of woodland or the installation of access tracks – works could reduce available habitat thus affect breeding success or survival rates;

- Disturbance and displacement during construction – works, including helicopter drops of materials and equipment, could disturb ornithological receptors or displace birds from otherwise suitable habitat. This could reduce breeding success or impact overall survival rates.
- Injury or mortality during construction – works could result on the death or injury of eggs or chicks, e.g. by crushing by plant of the laying of temporary access.

8.5.3 The following potentially significant effects could occur during operation of the Proposed Development:

- Injury or mortality – the operational infrastructure, particularly conductors and earth wires, could pose a collision hazard to ornithological receptors resulting in injury or death.
- Displacement - the operational infrastructure could displace ornithology receptors from potentially suitable habitat in the direct vicinity of the OHL Route. This could reduce the area of breeding or foraging/ hunting habitat available and reduce breeding success or overall survival.

8.6 Assessment Methodology

8.6.1 The ornithological impact assessment (OIA) will be completed in accordance with the Chartered Institute of Ecological and Environmental Management (CIEEM) Ecological Impact Assessment Guidance (2019). The assessment will use the ecological baseline to identify the important ornithological features (IOF) that could be affected by the construction or operation of the Proposed Development. Each IOF 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 IOF is likely to receive and whether or not that impact will be beneficial or adverse, significant or negligible, and temporary or permanent.

8.6.2 Where appropriate, mitigation measures will be recommended within the OIA 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 OIA Report.

8.7 Summary

8.7.1 The Proposed Development has the potential to significantly effect a relatively low number of species of conservation concern. Extensive ornithology surveys, and a desk study exercise, were undertaken to determine the ornithological baseline on which to base the assessment. Based on the results obtained it is anticipated that significant effects are only likely on the following species; golden eagle, hen harrier, black grouse and barn owl. Construction effects will be temporary in nature and a range of mitigation measures will be devised and implemented to minimise these effects. In particular NatureScot guidance in relation to helicopters and disturbance to birds will be followed when planning an assessing flight routes[35]. In addition, a collision risk assessment will be undertaken to determine the risk of collision with the Proposed Development infrastructure. The collision risk assessment will be informed by a literature review to evaluate the relative risk of ornithology receptor, to include an evidence-based study produced by EirGrid in the Republic of Ireland[36]. If mitigation is required, installation of bird flight diverters on appropriate spans will be considered.

[35] NatureScot (2015). The use of helicopters and aircraft in relation to disturbance risks to Schedule 1 & 1A raptors and wider Schedule 1 species.
[36] EirGrid (2016). EirGrid Evidence Based Environmental Studies Study 5 : Birds – Literature review and evidence based field study on the effects of high voltage transmission lines on birds.

9 Noise and Vibration

9.1 Introduction

9.1.1 The EIA Report will consider the potential for significant effects on Noise and Vibration resulting from the Proposed Development. It will also include a strategy to mitigate any likely significant effects.

9.2 Baseline Conditions

9.2.1 A baseline noise survey was carried out in 2019 in the vicinity of the existing Dunoon substation to undertake an assessment at this facility specifically. A summary of typical noise levels measured in 2019 at a sensitive location near the substation is presented in **Table 9.1**.

Table 9.1: 2019 Baseline Noise Results near Dunoon Substation

Time Period	Sound Pressure Level (dB)	
	$L_{Aeq\ 15min}$	$L_{A90\ 15min}$
Day	48	42
Night	41	37

9.2.2 A further baseline noise survey was carried out in 2021 in accordance with BS 7445[37] to establish the current noise climate in the vicinity of the existing OHL. Preliminary results of the baseline noise survey confirmed that the lowest noise levels recorded at a property in Rushfield are in the order of $L_{Aeq,15min}$ 38 dB and $L_{A90,\ 15min}$ 38 dB, during the night-time.

9.2.3 In general it is expected that noise levels will be typical of a rural area with relatively low noise levels in remote areas and dominated by road traffic noise near the A885.

9.2.4 Data collected in 2019 and 2021 will be used to support our assessment of the Proposed Development in the EIA Report.

9.3 Sensitive Receptors

9.3.1 The assessment will focus on the following sensitive areas related to noise and vibration up to 500 m from the alignment:

- Dwellings located at Glen Finart;
- Dwellings at Rushfield;
- Dwellings at Ballochyle; and,
- Dwellings at Ardnadam, north of Dunoon.

9.3.2 Other individual properties will be identified once the alignment has been selected and within a 500 m buffer.

[37] BS 7445:2003: Description and Measurement of Environmental Noise.

9.4 Issues Scoped Out

9.4.1 An energised electricity transmission line can be a source of a phenomenon known as "corona discharge" (a limited electrical breakdown of the air). Whilst the conductor systems of overhead lines are designed and constructed to minimise corona, surface irregularities on the conductors caused by physical damage such as burrs, or debris such as insects, pollen, industrial pollution, raindrops or other forms of contamination may locally enhance the electrical field strength sufficiently for discharges to occur. Any corona discharge would act as a source of audible noise (a crackling sound occasionally accompanied by a low frequency hum in certain wet conditions).

9.4.2 It is not expected that this phenomenon, during operation, is of concern for the Proposed Development given that the OHL is 132 kV. Evidence-based studies[38] have confirmed that the noise from corona discharge is only likely to become a significant effect at voltages higher than 350 kV.

9.4.3 A preliminary noise model for 132 kV OHL has been developed by SSEN Transmission using the proposed conductor and the results suggest the noise levels arising from the OHL would not exceed L_{50} 25 dB at 10 m from the line. It is also noted from the preliminary noise survey results that the existing ambient noise levels (dB L_{Aeq}) and background noise levels (dB L_{A90}) at a representative dwelling near the overhead line are at least 10 dB higher than this predicted noise level. This suggests that a significant adverse effect from the operation of the line is unlikely. Therefore, an assessment of the likely effects arising from the operation of the Proposed Development has been scoped out.

9.5 Potential Significant Effects

9.5.1 Construction of the Proposed Development, including dismantling of the existing OHL, has the potential to cause significant adverse effects at the nearest sensitive receptors described earlier in this chapter.

9.5.2 Noise and vibration effects may be attributable to activities such as road improvements and erection of site compounds during the enabling phase. During construction, activities related to the tower foundations and tower constructions may also generate an impact.

9.5.3 There is potential for the use of helicopters to drop materials and equipment and this is also likely to cause a noise impact depending on the regularity and timings of this activity.

9.6 Assessment Methodology

9.6.1 The assessment will follow advice on the Planning Advice Note (PAN) 1/2011:'Planning and Noise'.

9.6.2 Consultation will be undertaken with Argyll and Bute Council to agree the methodology.

9.6.3 A noise model in CadnaA will be prepared to predict construction noise associated with the Proposed Development. A typical configuration of plant items for key stages of the construction will be used based on information available prior to preparing the EIA Report. Sounds levels from plant will be assessed over the daytime, evening and night-time period, if applicable, using the ABC method described in BS5228-1[39] to determine the significance of effect at each receptor. The ABC method defines thresholds of potentially significant effects based on the baseline ambient noise level, as presented in **Table 9.2**.

[38] EirGrid Evidence Based Environmental Study 8: Noise. Literature review and evidence based field study on the noise effects of high voltage transmission development, 2016

[39] BS 5228, Parts 1&2 (2009) + A1 (2014): Noise and Vibration Control on Construction and Open Sites

Table 9.2 – Threshold of potential significant effect at dwellings

Evaluation Period	Assessment Category (dB L_{Aeq})		
	A	B	C
Night-time (23:00-07:00)	45	50	55
Evening and Weekends*	55	60	65
Daytime (07:00-19:00)	65	70	75

* 19:00-23:00 weekdays, 13:00-23:00 Saturdays and 07:00-23:00 Sundays.

Category A: threshold values to use when ambient Noise levels (when rounded to the nearest 5 dB) are less than these values.

Category B: threshold values to use when ambient Noise levels (when rounded to the nearest 5 dB) are the same as Category A values.

Category C: threshold values to use when ambient Noise levels (when rounded to the nearest 5 dB) are higher than Category A values.

The Category (A, B or C) is to be determined separately for each time period and the lowest Noise category is then used throughout the 24-hour cycle, e.g. a site which is category A by day and category B or C in the evening and night will be treated as category A for day, evening and night.

9.6.8 The concepts below from Noise Policy Statement for England (NPSE) will be adopted to facilitate the assessment:

- No Observed Effect Level (NOEL): the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
- Lowest Observed Adverse Effect Level (LOAEL): the level above which adverse effects on health and quality of life can be detected.

9.6.9 The NPSE extends these to the concept of a Significant Observed Adverse Effect Level (SOAEL):

- SOAEL: The level above which significant adverse effects on health and quality of life occur.

9.6.10 For residential receptors, exceedance of the ABC threshold relates to the SOAEL, and the LOAEL can be considered as the baseline noise levels. Significant effects will be considered when the magnitude of impact is equal or above SOAEL, depending on the duration of the activity.

9.6.11 The methodologies described in BS5228-2 will be used to assess vibration from construction activities relating to the Proposed Scheme. BS5228-2 describes significance criteria for determining effects on human receptors.

9.6.12 A mitigation strategy will be outlined, including Best Practicable Means (PBM) and other specific measures, as required to mitigate likely significant adverse effects.

9.7 Summary

9.7.1 Consultation will be undertaken with Argyll and Bute Council to agree the assessment methodology.

9.7.2 The assessment will focus on the likely significant effects arising during the construction phase of the Proposed Development. Likely effects arising from the operation of the Proposed Development have been scoped out.

10 Forestry

10.1 Introduction

10.1.1 The EIA Report will consider the potential effects of the Proposed Development on woodland areas. Evaluation of the existing baseline woodland characteristics will be made through a combination of desk-based study, field surveys and consultation.

10.2 Baseline Conditions

10.2.1 A desk-based study and woodland site visits have been undertaken to identify an initial overview the woodland types and extent of woodland affected by the Proposed Development.

10.2.2 The linear measurement of woodland affected by creation of an operational corridor is approximately 9.7 km of the Proposed Development 17.3 km OHL Route.

10.2.3 The predominant woodland type of the OHL Route is commercial conifer plantation. Areas of native broadleaved woodland are affected to a lesser extent. The areas of native broadleaved woodland have been classified on the Scottish Government's 'Ancient Woodland Inventory', including areas of conifer Plantation on Ancient Woodland Sites (PAWS).

10.3 Sensitive Receptors

10.3.1 Based on the results of the desk-based study and woodland site visits, the following sensitive receptors were identified and will be assessed and included in the EIA Report.

- Native broadleaved woodland: Areas are classified on the Scottish Government's Ancient Woodland Inventory. Areas of long established and naturally regenerated woodland are evident, an important habitat for biodiversity and managed for long term retention and biodiversity enhancement.
- Forest landscape impact: As detailed in **Section 4** of this report, woodland removal of the OHL operational corridor will create a change in the forest landscape. A forest landscape design assessment of the OHL operational corridor would be conducted for the identified forest areas that are prominent in the landscape.

10.4 Issues Scoped Out

10.4.1 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. As such, no further assessment of land-use change is anticipated and would not be included in the forestry chapter.

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

10.5 Potential Significant Effects

10.5.1 The Proposed Development would require the felling of commercial conifer forestry plantation and native broadleaved woodland during the construction phase, this will include the creation of an OHL operational corridor and access track corridors, with the potential of tree felling for borrow pits. On completion of the Proposed Development the established operational corridor would be maintained for the safe energisation of the OHL.

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

- Temporary or permanent woodland cover loss and fragmentation;
- Potential for windthrow risk and identification of windfirm boundaries;
- Potential for forest landscape impact and identification of forest landscape design boundaries;
- Reduction or loss of native woodland habitat; and,
- Loss of timber volume production due to early felling.

Mitigation

- The routeing and alignment selection process for the Proposed Development has enabled consideration of likely significant effects on forestry throughout the evolution of the project to date.
- 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.
- The native broadleaved woodland areas will be assessed for increased tree retention where possible, whilst allowing a safe operational corridor for OHL construction and operation to be established.

10.6 Assessment Methodology

10.6.1 The forestry assessment will focus on areas of commercial forestry and native woodland through which the Proposed Development is routed. Consideration will be undertaken on achieving resilience from tree fall e.g. OHL 'Red Zone' assessment based on a pragmatic appraisal of the maximum growth height of trees. Tree growth height appraisal will consider all site and species factors.

10.6.2 This assessment will be based on the forestry elements associated with the requirement to deliver the Proposed Development, including the formation of an OHL operational corridor (OC) and where applicable, access track construction corridors and borrow pits. Also, recognising the potential impact over broader forest management from the Proposed Development.

10.6.3 The establishment and ongoing maintenance of the OC is required to ensure integrity of the OHL and safety clearances are maintained and that unhindered access under the line remains. The assessment will consider the OC only and is not proposed to address overall Forest Plans of the adjoining woodlands. Any felling to adjacent woodlands undertaken outwith the OC 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 we are able to work within, or modify, an existing woodland management plan to accommodate the required felling to form the OC into a wider felling operation, we would seek where possible to work with landowners in the restocking plan, allowing for planting of suitable native broadleaf species closer to the line than conifer plantation species, allowing for formation of softer wayleave edge and minimizing the eventual operation corridor.

10.6.4 The woodland assessment reports on effected woodland blocks will be submitted as appendices to the EIA report.

10.7 Summary

10.7.1 The initial desk-based study and woodland site visits have identified that the Proposed Development would affect woodland areas. The predominant woodland type being commercial conifer plantation with areas of native broadleaved woodland to a lesser extent. The further detailed assessment of the Proposed Development's operational corridor through woodland, will include the consideration of all associated forestry effects and mitigation measures.

10.7.2 Compliance with the CoWRP through compensatory planting of the woodland removal area would achieve an overall no net loss of woodland.

11 Traffic and Transport

11.1 Introduction

11.1.1 This EIA chapter will assess the potential effects relating to Traffic and Transport as a result of the construction phase of the Proposed Development.

11.1.2 The assessment will be based on the effect of Heavy Goods Vehicles (HGV), private car and delivery vehicle movements during the construction of the Proposed Development.

11.1.3 The Traffic and Transport chapter will:

- Address potential disruption to pedestrians, cyclists and existing road users during the construction phase;
- Assess changes to local traffic flows during the construction phase;
- Assess the effect of the changes on the transport network and the level of significance of any effects established; and,
- Take account of the objectives of the local and strategic policy.

11.2 Baseline

11.2.1 The OHL Route crosses a number of roads, namely the A815, B936 and C09 (Glenfinat Road). The A815 and B836 are good standard single carriageway roads, with the national speed limit in place, outwith local settlements. The C09 (Glenfinat Road) is a single carriageway road, with passing places.

11.2.2 The Study Area for the purposes of the Traffic and Transport chapter has been defined as the public road network in the vicinity of the Proposed Development, which will be used by vehicles to access the Site in relation to construction activities. It is proposed that the following road sections will form the Study Area:

- A83(T) between Inveraray and Tarbet;
- A815 between the existing Dunoon substation and Ardberg;
- A815 between Ardgerg and the A83; and,
- C09 (Glenfinat Road) between the A815 and Ardentinny.

11.2.3 In order to establish baseline traffic flows, traffic count data will be sourced from the Department for Transport (DfT). There are permanent traffic count sites located on the A83(T), A815 and C09 (Glenfinat Road). The most recent pre-Covid-19 traffic data available (2019) shows the following annual average daily flows (AADF):

- A83(T) at the Rest and be Thankful (count site 764) is 4,472 of which 413 were heavy goods vehicles (HGVs);
- A815 in the vicinity of the existing substation in Dunoon (count site 80245) is 4,757 of which 220 were HGVs;
- A815 to the north of Ardbeg (count site 30926) is 1,904 of which 224 were HGVs; and,
- C09 (Glenfinat Road) (count site 931841) the AADF was recorded as 90 of which 3 were HGVs.

11.2.4 If necessary, the above traffic counts sites can be supplemented with additional traffic count information from the DfT. There are a significant number of permanent count sites in the vicinity of the Proposed Development.

11.3 Sensitive Receptors

11.3.1 The following sensitive receptors have been identified along the proposed access routes.

- A83(T) between Inveraray and Tarbet:
  - Inveraray town centre and its associated amenities;
  - Stand-alone properties (farms); and,
  - Residential properties.

- A815 between the existing Dunoon substation and Ardberg:
  - Dunoon town centre and its associated amenities;
  - Sandbank primary school;
  - Stand-alone properties (farms);
  - Residential properties; and,
  - Places of employment.
- A815 between Ardgerg and the A83:
  - Stand-alone properties (farms);
  - Residential properties;
  - Places of employment; and,
  - Tourist attractions.
- C09 (Glenfinat Road) between the A815 and Ardentinny:
  - Stand-alone properties (farms);
  - Residential properties;
  - Places of employment; and,
  - Tourist attractions.

11.3.2 The sensitivity of the receptors identified on the proposed access routes will be evaluated in relation to potential impacts of general construction traffic, with appropriate mitigation measures proposed.

11.4 Issues Scoped Out

11.4.1 As vehicles travel away from the Proposed Development during the construction phase, they will disperse across the wider road network, thus diluting any potential effects. It is therefore expected that the effects relating to Traffic and Transport are unlikely to be significant beyond the Study Area identified above, and as such no other routes are proposed to be included.

11.4.2 The traffic impacts associated with the operational phase are anticipated to be of low volume; they are limited to movements associated with routine maintenance. Therefore, further assessment of the traffic impacts of the Proposed Development during the operational phase is not considered necessary.

11.4.3 With regards to decommissioning effects, at the end of the life of the Proposed Development's operational life, there may be an impact on the local highway network due to movements of HGVs associated with the removal of equipment and materials. However, the number of vehicle movements is anticipated to be lower than predicted for construction and any baseline data collected for the purposes of this assessment would likely not be relevant so far in the future. As such, further assessment in this regard is not considered necessary.

11.5 Potential Significant Effects

11.5.1 Construction traffic associated with the construction of the Proposed Development would access the immediate area wherever possible via the A815, B836 and C09 (Glenfinat Road) from existing tower access routes utilised by the Applicant's operation and maintenance teams. Many individual tower sites would be accessible from existing public roads and farm tracks. Vehicle movements will be required to construct temporary or upgraded access roads, with the location determined by the Principal Contractor.

11.5.2 It is expected that the potential effects relating to Traffic and Transport would only be potentially significant within the Study Area identified above. As such only those sensitive receptors within this area will be assessed within the chapter.

11.5.3 Effects on the receptors identified, are expected to occur only during the construction phase and be temporary in nature. Potential effects are likely to be limited to construction traffic travelling to and from the Proposed Development, which in turn could potentially impact upon accidents and safety, pedestrian amenity, pedestrian delay and driver delay.

11.5.4 Where potential adverse effects are identified, mitigation measures to reduce or remove these effects will be proposed and it will be the responsibility of The Applicant, in conjunction with the Principal Contractor, to prepare a detailed Construction Traffic Management Plan (CTMP), which will be agreed in advance with the road authorities prior to commencement of work on site. The preparation of the CTMP will set out in full the mitigation measures, which will be implemented during the construction phase. Until such time as the contractor for the construction period is appointed, it is not possible to finalise the CTMP, however it would be proposed to include a framework CTMP as part of the Traffic and Transport Chapter.

11.6 Assessment Methodology

11.6.1 An assessment will be carried out as part of the EIA to include the likely number of construction traffic movements and the capacity of local roads to accommodate construction traffic. Operational traffic will also be considered; however, it is predicted that during the operational phase of the Proposed Development there will only be a minimal increase in traffic due to maintenance therefore it would not be assessed.

11.6.2 The assessment would be completed with reference to the following best practice guidelines and other related technical and planning guidance and in consultation with Argyll and Bute Council and Transport Scotland.

- Department for Transport (2002). Design Manual for Road and Bridges, Volume 13, Section 1, Part 5: Speeds on Links;
- Institute of Environmental Assessment (IEA) (January 1993). The Guidelines for the Environmental Assessment of Road Traffic;
- Institution of Environmental Management and Assessment (IEMA) (2005) Guidelines for Environmental Impact Assessment;
- Highways England et. al. (various dates). Design Manual for Roads and Bridges: Volume 11 – Environmental Assessment;
- Scottish Executive (2005). Planning Advice Note: PAN 75 - Planning for Transport;
- Scottish Government (2014). Scottish Planning Policy: Onshore Wind Turbines Online Renewables Planning Advice; and,
- Transport Scotland (2012). Transport Assessment Guidance.

11.6.3 The scope of the assessment will be agreed with Argyll and Bute Council and Transport Scotland.

11.6.4 In accordance with IEMA guidelines for the Environmental Assessment of Road Traffic, an assessment should be undertaken as follows:

- Rule 1: On road links where traffic flows are predicted to increase by more than 30% (or where the number of heavy goods vehicles is predicted to increase by more than 30%); and,
- Rule 2: Traffic flows are predicted by 10% or more in any other specifically sensitive areas.

11.6.5 Where the predicted growth in traffic flow is below the thresholds, the IEMA guidelines suggest the significance of the effects can be stated to be negligible and further detailed assessment is not warranted.

11.6.6 With regard to the sourcing of materials in relation to the construction of the Proposed Development, the contractors and suppliers are unlikely to be known at the EIA report stage and so it is not possible to confirm with certainty which routes will be used by development traffic, and how much traffic will utilise each route. Therefore, worst-case assumptions of assigning all construction traffic to each route will be made (unless agreed otherwise with the Local Authority or should information become available from the Client team).

11.7 Summary

11.7.1 Consultation will be undertaken with Argyll and Bute Council to agree the assessment methodology.

11.7.2 The assessment will focus on the likely significant effects arising during the construction phase of the Proposed Development. Likely effects arising from the operation of the Proposed Development have been scoped out.

12 Topics "Scoped Out"

12.1 Introduction

12.1.1 The sections below set out the topics which are proposed to be excluded from further assessment in the EIA and provides the justification for doing so.

12.2 Land Use

Baseline Conditions

12.2.1 The majority of the OHL Route crosses over agricultural grazing land, as well as areas of arable farmland, improved grassland and woodland/ forestry. Access is maintained by the applicant to existing towers for operation and maintenance purposes.

12.2.2 Impacts on forests and forestry specifically are discussed in **Section 10 Forestry** and are not discussed further here.

Potential for Significant Effects

12.2.3 Land use impacts associated with the Proposed Development are anticipated to temporary, localised, and low magnitude wherever possible, and would typically be temporary disturbances to access/use of land or severance of land parcels. These impacts would primarily occur during the enabling work phase of construction, including the establishment of temporary accesses and construction compounds. As the Proposed Development involves the replacement of the existing OHL, localised excavation works will likely occur. However, these would not be substantive, would be limited to the areas surrounding the tower legs, and reinstated upon completion. Despite many of the existing towers already possessing access tracks in good condition upgrades may be required. Where usage of existing access tracks would temporarily impact users, this use would be communicated and managed. Upon completion of works any temporary access tracks and other solutions would be removed.

12.2.4 Dialogue would be maintained between the Applicant and the Principle Contractor with landowners, local tenants, property owners, and the National Park Authority throughout the construction period to ensure that any disruption is kept to a minimum. Standard construction best practices would be included in the CEMP and Construction Traffic Management Plan (CTMP), which would be produced and implemented by the Principle Contractor. These measures would include appropriately signed diversions or any temporarily disturbed access and removal and, if appropriate, reinstatement of previous land uses.

Issues Scoped Out

12.2.5 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 EIA Report in its entirety.

12.3 Recreation and Tourism

Baseline Conditions

12.3.1 The area surrounding the OHL Route is used for a variety of recreation activities. These include walking, hiking, cycling, canoeing and angling. The area is also popular with whisky and heritage railway enthusiasts. Tourism, including the pursuit of recreational activities, contributes significantly to the local economy of the area annually. Tourism and recreation sites are distributed throughout the area surrounding the OHL Route and are often clustered near settlements, main roads. National Cycle Route 75 crosses the OHL Route south of Rashfield and Ardbeg. Additionally, several core paths (from both Argyll and Bute and Loch Lomond and the Trossachs), walking routes, and the River Eachaig promoted route either cross or run near the OHL Route. Annual competitive events that utilise these routes include the Dunoon Ultra Marathon and Dunoon Dirt Dash. Other significant tourist events that are held in the area include the World Highland Dancing Championships and the Cowal Highland Gathering, one of the largest Highland games events in the world.

Potential for Significant Effects

12.3.2 Due to the nature of the Proposed Development, disruption of recreation and tourist activities would most likely be limited to the construction phase causing temporary disruption to core paths, National Cycle Route 75, and other walkways/access routes to gain access required for the works. There may also be indirect impacts upon the amenity of nearby tourism and recreation facilities due to noise, dust, and visual impacts resulting from construction. However, these would be localised, temporary, negligible effects and are not anticipated to be significant.

12.3.3 Any disruption to foot and cycle paths would be signposted and, if necessary and appropriate, a safe diversion would be put in place in agreement with Argyll and Bute Council and the National Park Authority. The CEMP would also contain an Outdoor Access Plan, which would identify any locations where public and private access would be impacted by construction works and detail means to mitigate the effects, such as appropriate signage and maps detailing diversion routes. The CEMP and CTMP would contain industry best practice measures to minimise noise, dust, and visual impacts during construction.

Issues Scoped Out

12.3.4 No likely significant effects are predicted as a result of the Proposed Development and therefore assessment of recreation and tourism is proposed to be scoped out of the EIA report in its entirety.

12.4 Air Quality and Climate Change

Baseline Conditions

12.4.1 Due to the largely rural nature of the OHL Route, air quality pollutant levels are indicated to be low.

12.4.2 The OHL Route does not pass through any Air Quality Management Areas.

Potential for Significant Effects

12.4.3 Impacts can arise on air quality and contribution to climate change from developments of this type due primarily to generation and dispersal of dust and airborne particulate matter and emissions from plant, construction traffic and construction activities. However, as construction works would be temporary and short term and given the relatively small amount of emissions generating plant or vehicles required, the effects would be localised, short term and intermittent, and not considered to be significant.

12.4.4 With regards to the vulnerability of the Proposed Development to the effects of climate change, as the nature of the Proposed Development is to replace the existing OHL which is at end of life stage, with new modern infrastructure it is considered that it would provide a minor benefit to the vulnerability of climate change as the new infrastructure would be more robust. The alignment of the new OHL is also being designed to take factors such as flood risk and proximity to watercourses into consideration with a view to improve the resilience of the OHL to climate change as discussed in Section 6.

12.4.5 Potential effects would further be minimised through the implementation of construction best practice mitigation measures which would be set out in the CEMP.

Issues Scoped Out

12.4.6 No likely significant effects are predicted as a result of the Proposed Development and therefore an assessment on air quality and climate change is proposed to be scoped out of the EIA Report in its entirety.

12.5 Material Assets and Waste

Potential for Significant Effects

12.5.1 The Proposed Development would require material consumption for the realignment of the OHL and conductors, insulators, other fittings, steel and foundation works. Waste would be generated from the removal of the existing OHL and general construction waste from the compounds and sub-yards which would be recycled where possible.

12.5.2 Considering the nature and scale of the Proposed Development, material use and waste generation will be limited in type and quantity, and no significant effects are anticipated. The use of recycled materials where it is feasible to do so and minimisation of waste will be advocated and this will be included in the CEMP which would be produced and implemented by the Principal Contractor.

Issues Scoped Out

12.5.3 No likely significant effects are predicted as a result of the Proposed Development and therefore an assessment on material assets and waste is proposed to be scoped out of the EIA Report in its entirety.

12.6 Population and Human Health

Baseline Conditions

12.6.1 The OHL Route predominantly passes through a rural landscape populated by several villages and hamlets. Particular settlements where the selected route will pass in close proximity of dwellings are the villages of Sandbank and Ardentinney. The OHL Route will also pass isolated dwellings around the areas of Glen Finart Burn and east of Clachaig.

12.6.2 The existing tower structures and OHL operate and are maintained in accordance with all relevant health and safety legislation and guidelines.

Potential for Significant Effects

12.6.3 The impacts on population and human health for a development of this nature are limited and comprise a combination of effects assessed in other topics such as noise, air quality, and hydrology (private water supplies).

12.6.4 Social and community factors are unlikely to be significantly affected by the Proposed Development. However, there is a potential economic benefit to be gained during the construction phase through the provision of employment in the local area. It is not expected that any of these topics are likely to give rise to significant effects on human receptors and therefore the impacts on human health are not anticipated to be significant.

12.6.5 The most likely impacts upon population and human health would arise from noise and vibration, which is discussed in **Section 9** of this report and is proposed to be scoped in as an individual assessment. All other factors of Population and Human Health are considered unlikely to produce significant effects.

Issues Scoped Out

12.6.6 No likely significant effects are predicted as a result of the Proposed Development and therefore an assessment on population and human health is proposed to be scoped out of the EIA Report in its entirety.

12.7 Major Accidents and Disasters

Potential for Significant Effects

12.7.1 The potential for the risk of a major accident and disaster affecting the vulnerability of the OHL is likely to be limited to those associated with unplanned power outages, due to extreme weather or structural damage. Crisis management and continuity plans are in place across the SSE Group. These are tested regularly and are designed for the management of, and recovery from, significant energy infrastructure failure events.

12.7.2 Improvement to the reliability and operational integrity of the OHL is the driver for this project. The replacement of old infrastructure with new improves the resilience of the OHL to major accidents and disasters by reducing the likelihood of structural damage occurring during an incident

Issues Scoped Out

12.7.3 No likely significant effects are predicted as a result of the Proposed Development compared to the baseline situation and therefore an assessment on major accidents and disasters is proposed to be scoped out of the EIA Report in its entirety.

12.8 Electric and Magnetic Fields

Baseline Conditions

12.8.1 Electromagnetic Fields (EMF) arise from electric charges. Transmission lines comply with the government policy of adopting the guidelines of the International Commission on Non-Ionising Radiation Protection (ICNIRP) on exposure to EMF. The Applicant ensures at all times that they comply with relevant legislation[40], 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.

[40] http://www.energynetworks.org/electricity/she/emfs.html

Potential for Significant Effects

12.8.2 Both electric and magnetic fields diminish quickly with distance. For a 132 kV OHL, typical magnetic fields diminish to near zero at around 50 m from the centreline, while electric fields do so in around half the distance[41], it is considered unlikely that significant effect on human health associated with EMFs would result from the Proposed Development, and it is therefore proposed to scope this out of EIA.

Issues Scoped Out

12.8.3 No likely significant effects are predicted as a result of the Proposed Development and therefore an assessment on EMF is proposed to be scoped out of the EIA Report in its entirety.

12.9 Radio and TV Interference

Baseline Conditions

12.9.1 At sufficiently high voltages and in particularly adverse weather radio interference may occur due to corona, a phenomenon which causes the air surrounding conductors to become ionized, resulting in the conductors partially discharging. This only affects longwave (LW) and medium wave (MW) signals, which carry Amplitude Modulation (AM) radio.

12.9.2 Corona discharge is usually an intermittent phenomenon and is associated with either a faulty electrical connection or a faulty component. It is rarely found on steel-structure lines, as hardware tends to remain tightly fastened. It is not considered a source of long-term annoyance as the equipment is built and maintained to high standards and any such discharge would be the subject of remedial action.

12.9.3 LW and MW interference is very common and can occur for a wide variety of reasons[42] including weather due to differences in atmosphere, electric motors within common household appliances, light-emitting diode (LED) lights, street lighting and passing traffic. Under certain weather conditions, there are likely to be cases of limited AM radio interference at properties in close proximity to the OHL Route.

12.9.4 The Radio and Television Investigation Service (RTIS) in the regulatory body The Office of Communications (Ofcom) undertake investigations into complaints of radio and television interference of all kinds and from all sources. Published information[43, 44] indicates few cases of interference attributable to OHLs of 100 kV and over, and the number of complaints has fallen over recent years.

Potential for Significant Effects

12.9.5 The Proposed Development will not increase the voltage carried by the OHL, so there is no anticipated increase in electrical field that could potentially increase radio and television (TV) interference.

12.9.6 There is a BT radio link which crosses the existing OHL and the proposed OHL route is within the 100 m infringement zone. However, consultation, investigation and assessment was undertaken following the identification the BT radio link and this is being addressed as part of the design.

[41] EMFs.info (2018) Summaries of fields from all power lines [online] Available at: http://www.emfs.info/sources/overhead/summaries/
[42] Troubleshooting interference to AM radio. RTIS. Webpage. Available at: https://www.radioandtvhelp.co.uk/help-guides/radio/troubleshooting-interference-to-am-radio.
[43] TV or radio interference problems. Ofcom. Webpage. Available at: https://www.ofcom.org.uk/tv-radio-and-on-demand/how-to-report-a-complaint/tv-or-radio-interference-or-reception-problems
[44] Radio and Television Investigation Service. Webpage. Available at: https://www.radioandtvhelp.co.uk/what-are-you-having-problems-with.

12.9.7 The most likely impacts caused by the Proposed Development would be upon LW and MW signals which carry AM radio. AM is the oldest radio broadcasting system and over the years the number of radio stations broadcasting on AM is reducing, as they move to more reliable, higher-quality FM or digital platforms and there are now only a limited number of radio stations still operating on AM. The Proposed Development is not considered to cause interference to TV, FM or Digital Audio Broadcasting (DAB) signals.

12.9.8 Interference to AM signals is already very common from a variety of sources and it is considered that the Proposed Development would not cause a significant effect to AM interference. Any complaints by nearby residents raised to Ofcom or RTIS and found to be attributable to the Proposed Development would be appropriately dealt with by the Applicant on a case-by-case basis. It is proposed to scope out further assessment of radio and TV interference.

Issues Scoped Out

12.9.9 No likely significant effects are predicted as a result of the Proposed Development and therefore an assessment on Radio and TV interference is proposed to be scoped out of the EIA Report in its entirety.

13 Summary of Scoping

13.1.1 This Scoping Report set out the environmental topics and aspects whereby significant effects are considered likely and therefore proposed to be included in the EIA and the topics and aspects proposed to be scoped out of the EIA as no significant effects are predicted.

13.1.2 **Table 12.1** below lists each topic and the elements scoped in and out from further assessment; with a summary of the justification for doing so.

Table 12.1: Environmental Topics and Aspects Scoped In and Out

Topic	Scoped In	Scoped Out
Landscape and Visual Impact	Landscape - construction and operational activities would have the potential to be intrusive in the landscape locally, giving rise to temporary and permanent significant landscape effects. This will include consideration of the Special Qualities of the Loch Lomond and the Trossachs National Park. Visual - the potential for adverse effects during construction and operation arises primarily from the presence of new, larger steel lattice towers, which may form an intrusive element in views where a tower was not previously visible or was less noticeable.	The effect on LCT will not be considered as the magnitude of change from a replacement OHL would be too small to have a significant effect. The effect on National Scenic Areas, Wild Land Areas and Argyll & Bute Areas of Panoramic Quality will not be considered because the nearest areas are too far from the Proposed Development to be affected.
Cultural Heritage	Construction and operational direct and indirect effects upon archaeological and Cultural Heritage features.	The direct and indirect impacts during construction and operation of the Proposed Development on World Heritage Sites, Marine Protected Areas and Inventory Battlefields will be scoped out of the cultural heritage assessment as there are none which cross the Proposed Development or are located within the 3 km study area. Assessment of direct impacts to Listed Buildings and GDLs will be scoped out as there will be no direct impacts on any Listed Buildings or GDLs. The replacement OHL was routed to avoid any impacts on the Benmore (Younger Botanic Gardens) GDL (GDL00056) during the routing and alignment optioneering.
Hydrology, Hydrogeology, Geology, and Soils	Potentially significant effects that may result from the construction phase of the Proposed Development: - Impacts on private water supplies; - flooding: - operational impacts on groundwater levels and flows; - soil erosion, compaction and excavation losses during access or construction; - impact on water resource availability; and,	Construction pollution is scoped out as it is considered that good design and embedded pollution prevention mitigation including the Applicant's GEMPs will minimise the potential for pollutants or sediment to be released into waterbodies. Mobilisation of contaminated soil / bedrock is considered to be unlilkely to be significant considering the location of the OHL Route.

Topic	Scoped In	Scoped Out
	- modifications to groundwater conditions, which may cause alteration to receptors such as GWDTE or groundwater-fed water supplies.	
Ecology and Nature Conservation	Construction impacts- an EcIA will be undertaken which will consider: - Impacts upon legally protected and notable species including red squirrel; - Impacts upon sensitive terrestrial and aquatic habitats including ancient woodland, peatland, coastal and estuarine habitats.	Construction impacts on Craighoyle Woodland SSSI, Loch Eck SSSI, Upper Loch Fyne MPA and Loch Goil MPA are scoped out due to distance from the Proposed Development and lack of hydrological connectivity. Impacts on Holy Loch LNR and LNCS (a shoreline habitat which is downstream of the Little Eachaig River catchment which is crossed by the proposed OHL route) are scoped out on the basis that watercourses will be protected against pollution and siltation events as part of scheme design. Construction impacts on agricultural land and built-up areas within the ecological study area have been scoped out due to being of low ecological value when considered in isolation. Operational impacts on bats and other ecological receptors are scoped out as the post-construction situation will not be different (in ecological terms) from the current baseline situation. The findings of the Biodiversity Net Gain (BNG) assessment will be incorporated into scheme design as part of SSEN's sustainability strategy. The BNG assessment is subject to a separate reporting process and will not form part of the EIA Report.
Ornithology	Potential significant effects will be limited the following ornithological receptors; golden eagle, hen harrier, black grouse and barn owl. Construction impacts: - Loss or degradation of habitats - Disturbance and displacement - Injury or mortality Operational impacts: - Disturbance and displacement - Injury or mortality	Construction and Operational impacts on the following are scoped out from further assessment: - Impacts upon any designated site with ornithological features - Impacts on passerine (songbird) species - Impacts on wintering birds, with the exception of golden eagle and black grouse - Impacts on the breeding wader assemblage Indirect effects on habitats as a result of construction related pollution is scoped out of further assessment.
Noise and Vibration	Construction noise	Operational impacts are scoped out as noise levels are not anticipated to be significant.

Topic	Scoped In	Scoped Out
Forestry	Potentially significant effects that may result from the construction and operation phases of the Proposed Development include: - Temporary or permanent woodland cover loss and fragmentation. - Potential for windthrow risk and identification of windfirm boundaries. - Potential for forest landscape impact and identification of forest landscape design boundaries. - Reduction or loss of native woodland habitat. - Loss of timber volume production due to early felling.	The Proposed Development will not change the forestry land-use of the wider area, therefore it is scoped out.
Traffic and Transport	Potential significant effects during the construction phase within the Study Area include: - accidents and safety - pedestrian amenity - pedestrian delay - driver delay	Construction impacts beyond the Study Area are scoped out as the volume of construction traffic anticipated is not predicted to result in a significant effect. Operational impacts beyond the Study Area are scoped out as there would be no change to the baseline.
Land Use	None	Construction impacts are scoped out as the impacts are predicted to be minor, temporary and localised. Operational impacts are scoped out as a change in land use would be temporary during construction only and would be reinstated upon completion of the works.
Recreation and Tourism	None	Construction works are unlikely to significantly affect recreation and tourism receptors and standard construction best practice would minimise impacts. Operational impacts are scoped out as the situation would be no different than to the baseline.
Air Quality and Climate Change	None	Construction impacts are scoped out as no significant effects are predicted and impacts would be minimised through standard industry best practice measures Operational impacts are scoped out as the situation would be no different than to the baseline.
Material Assets and Waste	None	Construction and operation impacts are scoped out as no significant effects are predicted.
Population and Human Health	None	Construction and operation impacts are scoped out as no significant effects are predicted.

Topic	Scoped In	Scoped Out
		The relevant aspects such as Noise and Vibration are scoped in.
Major Accidents and Disasters	None	Construction and operation impacts are scoped out as no significant effects are predicted.
Electric and Magnetic Fields	None	Construction impacts are not applicable. Operational impacts are scoped out as no significant effects are predicted.
Radio and TV Interference	None	Consultation, investigation and assessment was undertaken following the identification of a BT radio link which crosses the existing OHL route and has potential for the proposed OHL route to interfere with the radio link. Through further design and consideration the existing BT line of sight communciation is going to be a minimum of 150 m above the proposed replacement OHL, and so is not considered to be of concern. Construction impacts are not anticipated. Operational impacts are scoped out as no significant effects are predicted.

14 Next Steps

14.1.1 The Applicant 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?

14.1.2 All responses should be addressed to: Econsents_Admin@gov.scot

14.1.3 When submitting a response to the Scoping Report, the Applicant would be grateful if you could also send a copy of your response to: dan.thomas@sse.com

14.1.4 The Scoping Opinion provided will be used to finalise the terms of the EIA and the specific approach to the individual assessments.

14.1.5 All comments received will be included in the EIA Report for reference, unless consultees request otherwise.

Date Saved: 25/03/2021

Document Path: \\uk.wspgroup.com\central data\Projects\70065xx\70065799 - LT193 Dunoon to Whistlefield\05 Models and Drawings\MXDs\Alignment Updates 20210323\LT193_DW_70065799_0044 - Figure 1.1 - Location.mxd

Client: Scottish & Southern Electricity Networks

Project: LT193 Dunoon to Loch Long 132kV OHL Rebuild

Title: Figure 1.1 Location

Date: 25 March 2021 | Scale: 70,000 @ A3

Drawn: EC | Checked: CE | Approved: JB

Key

- Existing Dunoon Substation
- Tower 15 on Whistlefield - Dunoon 132kV OHL
- Existing OHL
- Proposed OHL Route

0 2 4 km

Client:

Scottish & Southern Electricity Networks

Project:

LT193 Dunoon to Loch Long
132kV OHL Rebuild

Title

Figure 2.1
Overhead Line Route

Date:	08 November 2021	Scale:	60,000 @ A3
Drawn:	EC	Checked: DT	Approved: SM

Date Saved: 08/11/2021

Document Path: \\uk.wspgroup.com\central data\Projects\700657xx\700657799 - LT193 Dunoon to Whistlefield\05 Models and Drawings\MXDs\Scoping Updated Sept 2021\LT193_DW_70065799_0061 - Figure 2.2 - Key Constraints.mxd

Key

- Existing Dunoon Substation
- Tower 15 on Whistlefield - Dunoon 132kV OHL
- Existing OHL
- Proposed OHL Route
- 2km Buffer
- Listed Building (A, B and C)
- Residential Dwelling
- Local Authority Conservation Area
- Local Nature Conservation Site
- Loch Lomond & The Trossachs National Park
- Scheduled Monument
- Site of Special Scientific Interest (SSSI)
- Marine Protected Area
- Native Woodland
- Near-native Woodland
- Ancient Woodland Inventory
- Garden and Designed Landscape

0 2 4 km

Client: Scottish & Southern Electricity Networks

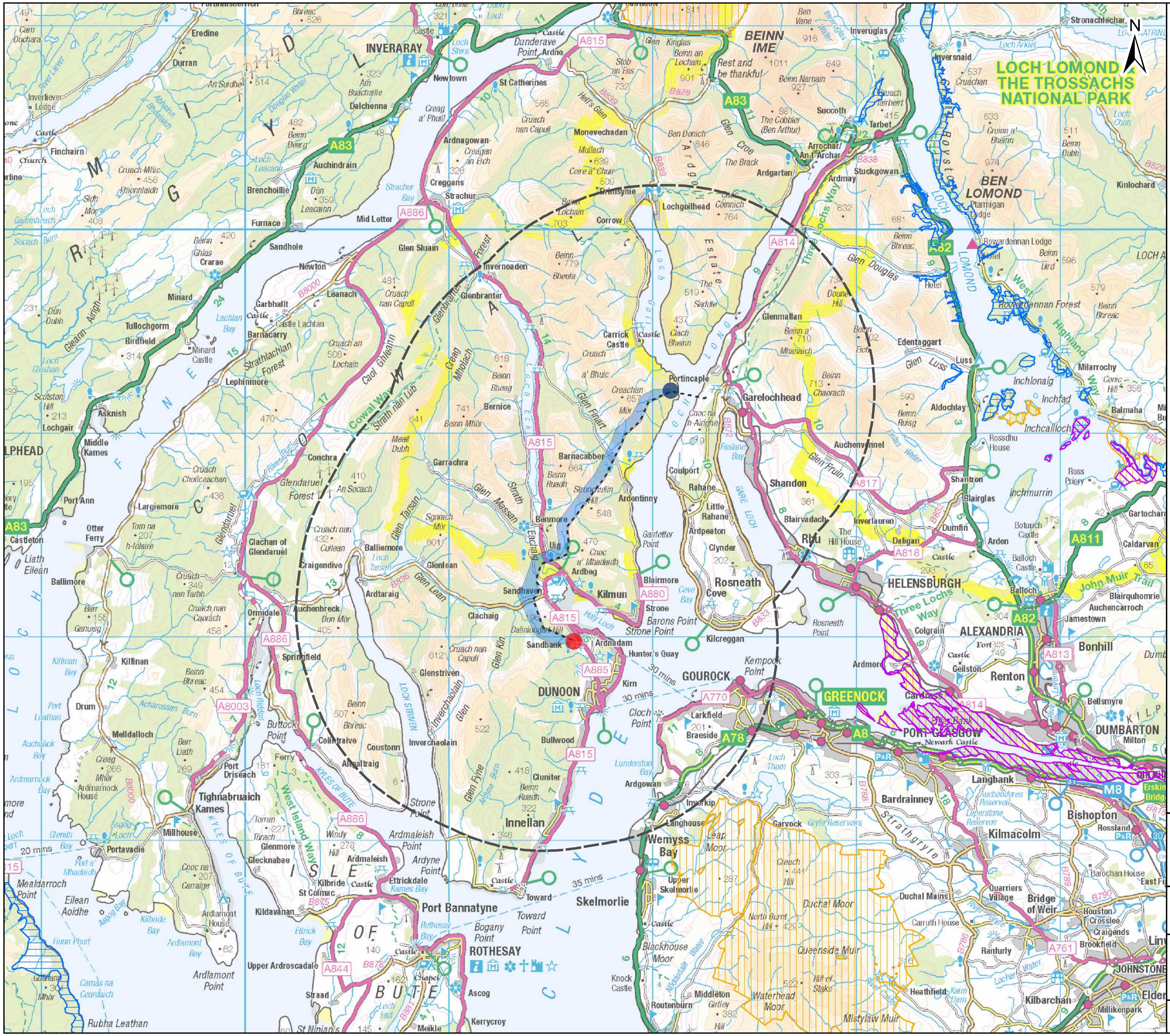
Project: LT193 Dunoon to Loch Long 132kV OHL Rebuild

Title: Figure 2.2 Environmental Constraints

Date:	08 November 2021			Scale:	65,000 @ A3
Drawn:	EC	Checked:	DT	Approved:	SM

Date Saved: 08/11/2021

Document Path: \\uk.wspgroup.com\central data\Projects\700657xx\70065799 - LT193 Dunoon to Whistlefield\05 Models and Drawings\MXDs\Scoping Updated Sept 2021\LT193_DW_70065799_0062 - Figure 2.3 - Key Constraints (250k).mxd



Key

- Existing Dunoon Substation
- Tower 15 on Whistlefield - Dunoon 132kV OHL
- Existing OHL
- Proposed OHL Route
- 10km Buffer
- Special Area of Conservation (Sco)
- Special Protection Area (Sco)
- Ramsar Site - Wetland of International Importance (Sco)

0 4 8 12 km

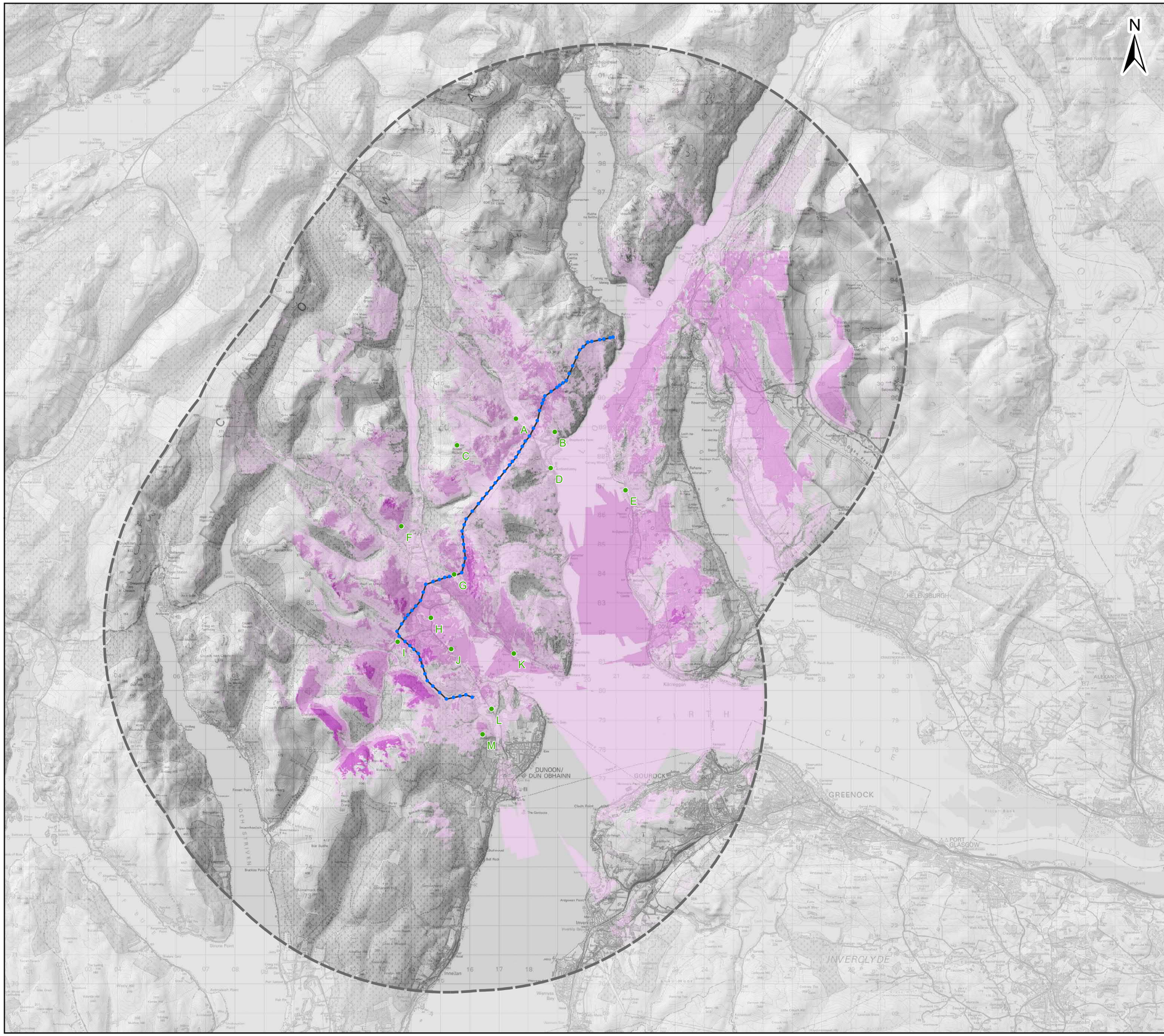
Client: Scottish & Southern Electricity Networks

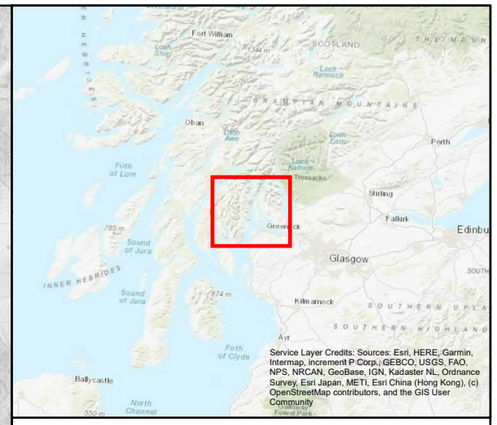
Project: LT193 Dunoon to Loch Long 132kV OHL Rebuild

Title: Figure 2.3 Internationally Recognised Environmental Constraints

Date:	08 November 2021		Scale:	180,000 @ A3
Drawn:	EC	Checked: DT	Approved:	SM

Date Saved: 10/01/2022





Legend

- Indicative New Tower
- Indicative OHL Alignment
- 10 km Study Area

Zone of Theoretical Visibility (ZTV): number of new towers potentially visible

- 1 - 10
- 11 - 20
- 21 - 30
- Viewpoint

A - Glen Finart (Roadside)
B - Glen Finart (Birchwood Trail)
C - Beinn Ruadh
D - Ardentinny
E - Coulport
F - Benmore Gardens viewpoint
G - Pucks Glen
H - A815 Strath Eachaig
I - B836 Little Eachaig valley
J - A815 Sandbank (Holy Loch picnic area)
K - Kilmun
L - A815 Sandbank
M - Dunan viewpoint

The ZTV is calculated based on the OHL tower height and a viewer height of 1.6m above ground level. The terrain model assumes bare ground and is derived from OS Terrain 5 data. Earth curvature and atmosphere refraction have been taken into account.

0 2.5 5 km

Client: Scottish & Southern Electricity Networks

Project: LT193 Dunoon to Loch Long 132kV OHL Rebuild

Title: Figure 4.1 Preliminary Zone of Theoretical Visibility

Date: 10 January 2022 Scale: 125,000 @ A3
Drawn: MAL Checked: DT Approved: AF
Drawing Number: 70078098-700