

Consultation Document

Bhlaraidh Extension Wind Farm Grid

Connection

November 2020

REF: LT295



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GLOSSARY

Term	Definition
Alignment	A centre line of an overhead line OHL, along with location of key angle structures.
Alignment (preferred)	An alignment for the overhead line taken forward to stakeholder consultation following a comparative appraisal of alignment options.
Alignment (proposed)	An alignment taken forward to consent application. It comprises a defined centre line for the overhead line and includes an indicative support structure (tower or pole) schedule, also specifying access arrangements and any associated construction facilities.
Amenity	The natural environment, cultural heritage, landscape and visual quality. Also includes the impact of SHE Transmission plc's works on communities, such as the effects of noise and disturbance from construction activities.
Biodiversity Net Gain (BNG)	A process intended to leave nature in a better state than it started using good practice principles established by the Business and Biodiversity Offset Programme (BBOP) and organisations including CIRIA, CIEEM and IEMA.
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.
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.
Listed Building	Building included on the list of buildings of special architectural or historic interest and afforded statutory protection under the 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997' and other planning legislation. Classified categories A – C(s).
Micrositing	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.
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.
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.

Term	Definition
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.
Sites of Special Scientific Interest (SSSI)	Areas of national importance. The aim of the SSSI network is to maintain an adequate representation of all natural and semi-natural habitats and native species across Britain.
Span	The section of overhead line between two 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 the Highland Council which are considered to be of regional/local importance for their scenic qualities.
Stakeholders	Organisations and individuals who can affect or are affected by SHE Transmission plc works.
Study Area	The area within which the Corridor, route and alignment study takes place.
The National Grid	The electricity transmission network in the Great Britain.
Underground Cable (UGC)	An electric cable installed below ground, protected by insulating layers and marked closer to the surface to prevent accidental damage through later earthworks.
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 SHE Transmission plc.

PREFACE

This Consultation Document has been prepared by ASH Design and Assessment Ltd. on behalf of Scottish Hydro Electric Transmission plc (SHE Transmission plc) to seek comments from all interested parties on the preferred route identified for the Bhlaraidh Extension Wind Farm 132 kV overhead line between Bhlaraidh Extension Wind Farm on-site substation and Fort Augustus substation within Auchterawe, near Fort Augustus.

The Consultation Document is available online at the project website:

<https://www.ssen-transmission.co.uk/projects/bhlaraidh-extension-windfarm-connection/>

Under normal circumstances, consultation on the project would involve public engagement events held in the local area. However, as a result of the COVID-19 pandemic this has not been possible.

To continue engagement on the project SHE Transmission plc has developed an online consultation tool, to enable the local community to experience the full exhibition from home on a computer, tablet or mobile device. The online exhibition has been designed to look and feel like a real consultation in a community hall, with exhibition boards, maps, interactive videos and the opportunity to share views on the proposals.

Visitors will be able to engage directly with the project team, via a live chat function, where they can ask any questions they might have about the project and share their feedback on the current proposals.

The virtual consultation events will be taking place via the project website at the following times:

- 10th November 2020; 13:00 – 15:00 and 17:00 – 19:00; and
- 11th November 2020; 14:00 – 16:00.

Comments on this Consultation Document should be sent to:

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All comments are requested by **11 December 2020**.

EXECUTIVE SUMMARY

The proposed Bhlaraidh Extension Wind Farm (18 turbines, total capacity 100.8 MW) in the Highlands requires connection to the electricity transmission network at Fort Augustus substation by October 2024. It is anticipated that this would be achieved via the construction and operation of a new 132 kV single circuit Overhead Line (OHL). It is anticipated that the connection into Fort Augustus substation (approximately 500 m in length) would be by underground cable (UGC). This Consultation Document invites comments from all interested parties on the preferred grid connection route identified.

A Corridor was identified within which the identification and assessment of route options could be completed (see **Figure 1**). The Corridor was developed to encompass a range of feasible route options between the two connection points at Bhlaraidh Extension Wind Farm on-site substation and Fort Augustus substation. It was also informed by the System Planning Commercial Appraisal Paper prepared in Summer 2019 which considered alternative connection options.

The Preferred Route has been selected to provide an optimum balance of environmental, technical and economic factors. Moving forward, confirmation of the Proposed Route (1 km wide) and of potential OHL alignments within it will be informed by this consultation exercise and through detailed surveys, which may identify any as yet unknown engineering, environmental or land use constraints.

Further public consultation on a Preferred Alignment (approximately 200 m width depending on constraints) will take place during Spring 2021. It is anticipated that an application for consent for a proposed alignment will be submitted in May 2022.

When providing comments and feedback on this Consultation Document, SHE Transmission plc would be grateful for your consideration of the questions below:

- Have we explained the need for this Project adequately?
- Have we explained the approach taken to select the Preferred Route adequately?
- Are there any factors, or environmental features, that you consider may have been overlooked during the preferred route selection process?
- Do you feel, on balance, that the Preferred Route selected is the most appropriate for further consideration at the alignment selection stage?

1. INTRODUCTION

1.1 Purpose of Document

- 1.1.1 This Consultation Document invites comments from all interested parties on the preferred route identified for the proposed 132 kV overhead line (OHL) between Bhlaraidh Extension Wind Farm on-site substation and Fort Augustus substation.
- 1.1.2 This Consultation Document describes the route options appraisal undertaken, the alternatives considered during the selection of route¹ options, and the identification of a Preferred Route. Comments are now sought from statutory authorities, key stakeholders, elected representatives and the public on the route selection process and the Preferred Route identified.
- 1.1.3 All comments received will inform further consideration of the Preferred Route, and subsequent alignment.² options therein.

1.2 Document Structure

- 1.2.1 This report is comprised of eight sections as follows:

- 1: Introduction – setting out the purpose of the Consultation Document;
- 2: The Proposals – describes the need for the proposals, the proposed technology solution and the typical construction methods;
- 3: Route Selection Process – sets out the route selection process and methodology that has been applied to date;
- 4: Description of Routes – describes the route options that have been identified;
- 5: Environmental Baseline – describes the local context and baseline environmental and engineering context;
- 6: Comparative Appraisal – analyses each route option against a series of environmental, technical and economic considerations to arrive at a Preferred Route;
- 7: Biodiversity Net Gain – discusses initial Biodiversity Net Gain (BNG) considerations for the route options, identifying potential constraints and opportunities; and
- 8: Consultation on the Proposals – invites comments on the route assessment process and identification of preferred route and outlines the next steps.

- 1.2.2 The main body of this document is supported by a series of figures.

1.3 Next Steps

- 1.3.1 As part of the consultation exercise, comments are sought from members of the public, statutory consultees and other key stakeholders on the Preferred Route option put forward in this report.
- 1.3.2 A Report on Consultation will be produced which will document the consultations received, and the decisions made in light of these responses.

¹ A linear area of approximately 1 km width (although this may be narrower/wider in specific locations in response to identified constraints), which provides a continuous connection between defined connection points.

² A centre line of an overhead line, along with the location of key angle structures.

- 1.3.3 Following the identification of a Proposed Route, further technical and environmental surveys will be undertaken to identify a Preferred Alignment within the route. Consultation on a Preferred Alignment will be undertaken in a similar manner to the identification of a Preferred Route, during Spring 2021.

2. THE PROPOSALS

2.1 The Need for the Project

- 2.1.1 SHE Transmission plc is a wholly owned subsidiary of the SSE plc group of companies. SHE Transmission plc owns and maintains the electricity transmission network across the north of Scotland and holds a license under the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.
- 2.1.2 The proposed Bhlaraidh Extension Wind Farm (18 turbines, total capacity 100.8 MW) in the Highlands requires connection to the electricity transmission network at Fort Augustus substation by October 2024. It is anticipated that this would be achieved via the construction and operation of a new 132 kV single circuit OHL. It is anticipated that the connection into Fort Augustus substation (approximately 500 m in length) would be by underground cable (UGC). The new connection would be routed between the proposed Bhlaraidh Extension Wind Farm on-site substation and Fort Augustus substation (see Figure 1).

2.2 Preferred Technology Solution

- 2.2.1 Based on the options assessed, the preferred solution is a new 132 kV single circuit OHL supported on a trident wood pole³. This is the most economical option which minimises access requirements and environmental impacts during construction due to reduced foundation and access requirements.

2.3 Alternative Options Considered

- 2.3.1 While SHE Transmission plc has determined that a trident wood pole is the preferred technological solution for this project, it is recognised that there may be potential environmental and technical considerations that require the use of alternative technology options for lengths of the Preferred Alignment. For this particular development, much of the ground within the Corridor is at an elevation in excess of 300 m Above Ordnance Datum (AOD), with some areas in excess of 500 m AOD, including the site of the Bhlaraidh Extension Wind Farm on-site substation. While it is possible in some instances to utilise wood pole structures up to 500 m AOD, issues such as exposure and wind loading necessitate deeper planting of poles and shorter spans, and stronger, more resilient structures tend to be favoured instead. These include steel lattice towers, composite or steel versions of the trident support, or SHE Transmission plc's New Suite of Transmission Structures (NeSTS).
- 2.3.2 Use of UGC is also a potential solution for areas of higher ground, but this tends to be the least favoured approach due to increased disruption of habitats and / or areas of peat soils, increased cost and additional maintenance challenges.
- 2.3.3 An overview of these technology options is provided below; however, until a Preferred Alignment for the OHL has been identified and detailed assessments and consultations have been completed, the requirement or extent of any use of other technology options is not known.

2.4 Proposals Overview

General Construction Activities

- 2.4.1 To facilitate the connection, the main construction elements associated with the development are anticipated to include:
- establishment of one or more construction compound;
 - establishment of suitable laydown areas for materials;

³ The consideration of other technology options may be required in areas where particular physical or environmental constraints are identified.

- construction of stone tracks (both temporary and permanent), and other temporary track solutions as necessary;
- delivery of structures and materials to site;
- excavation and construction works associated with foundations, as necessary;
- assembly and erection of OHL support structures and stays;
- stringing of conductors using hauling ropes and winches; and
- inspections and commissioning.

2.4.2 **Table 2.1** provides a comparison of the different OHL technology options under consideration.

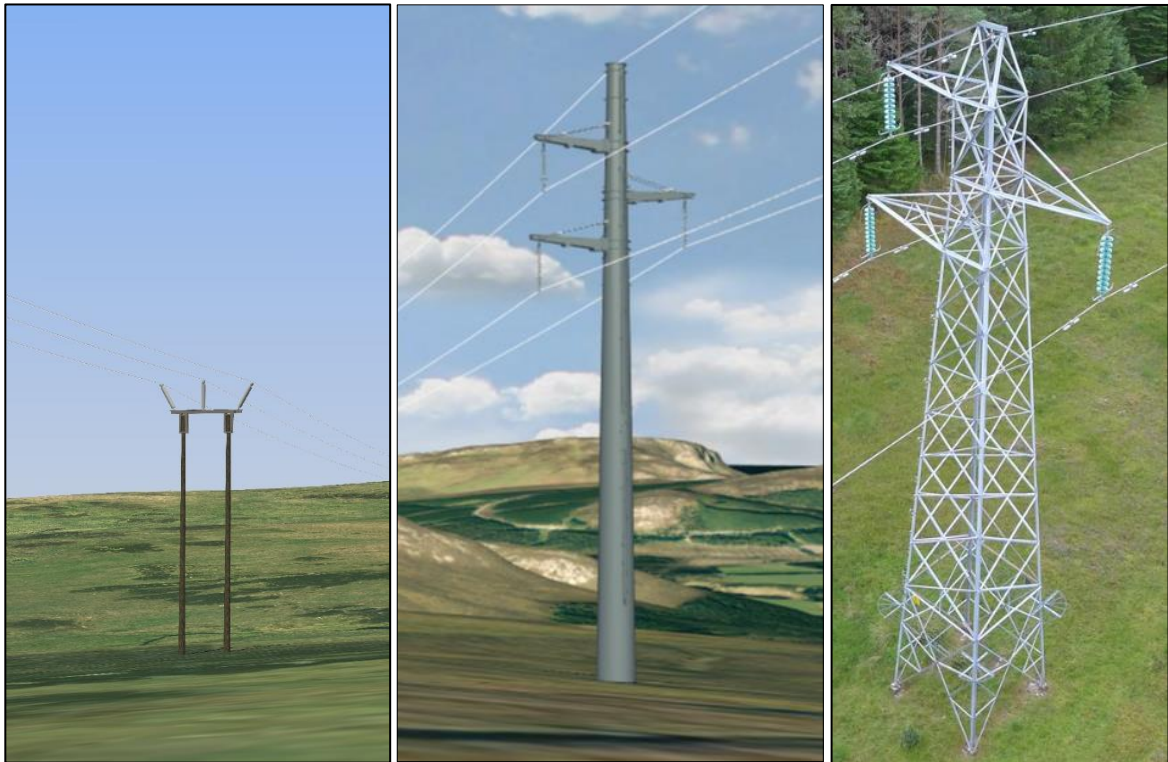
Table 2.1: Comparison of OHL Technologies

Technology Type	Indicative Height	Indicative Span Length	Typical Installation Activities
Trident Wood Pole	16 m	85 m	Excavation of a suitable area for the wood poles, and backfilling after installation of the pole. Addition of imported hardcore backfill around the pole foundations in some locations to provide additional stability. Conductors installed using full tension stringing. Reinstatement using excavated material.
Trident Composite or Steel Pole	16 m	100 m	Excavation of a suitable area for the poles, and backfilling after installation of the pole. Addition of imported hardcore backfill around the pole foundations in some locations to provide additional stability. Conductors installed using full tension stringing. Reinstatement using excavated material.
Steel Lattice Tower	24 m	250 m	Construction of stone access tracks and establishment of a suitable working area at each tower. Stripping of topsoil from the working area to allow placement of additional pads or supports for construction, where necessary. Excavation for foundations, typically 3 m deep, followed by placement of formwork and concrete pouring. Delivery of towers to site in sections, and assembly at each location. Construction by mobile crane and telehandler, or potentially by helicopter in challenging sections. Conductored (strung) through use of winches, tensioners and ancillary equipment. Pilot wires would be pulled through each section by suitable vehicles, drawing the conductors through the supports. Reinstatement using excavated material.
NeSTS Monopoles (Steel)	24 m	300 m	Construction of stone access tracks and establishment of a suitable working area at each pole. Stripping of topsoil from the working area to allow installation of pole erection pads, where necessary.

Technology Type	Indicative Height	Indicative Span Length	Typical Installation Activities
			<p>Excavation for foundations; depth is dependent on pole size and ground conditions, but typically 3 m deep, followed by placement of formwork and concrete pouring.</p> <p>Conductored (strung) through use of winches, tensioners and ancillary equipment. Pilot wires would be pulled through each section by suitable vehicles.</p> <p>Reinstatement using excavated material.</p>

Example OHL structures are shown in Plate 2.2 for illustrative purposes.

Plate 2.2: Example OHL Structures: Trident Wood Pole, NeSTS and Steel Lattice Tower



Underground Cable

2.4.3 The final length of connection into Fort Augustus substation would be formed of UGC given technical constraints around the substation. The exact length and location where OHL will transition to UGC is not known at this stage, however, it is anticipated approximately 500 m of UGC would be installed.

2.4.4 It is anticipated that installation of the UGC would involve the following tasks:

- establish a working corridor approximately 30 m wide, centred on the cable centreline;
- excavate a trench up to 2 m in depth and 0.8 m wide, widening through benching and battering where stability and safety concerns arise;
- clear out all materials likely to damage cable ducts, e.g. clods, rocks, stones and organic debris, and employ use of pumps to remove any water;

- place cabling within the trench, surrounded by engineered backfill in suitable layers for protection, with marker boards placed above the cable line; and
- reinstate excavated surface layers in reverse order.

Forestry Removal

- 2.4.5 Construction of the project would likely require the removal of sections of commercial forest, which would be undertaken in consultation with Forestry and Land Scotland (FLS) and affected landowners. Scottish Forestry would also be consulted throughout the development of the project and the project would seek to adhere to Scottish Government's Control of Woodland Removal Policy.⁴
- 2.4.6 After felling, any timber removed that is commercially viable would likely be sold and the remaining forest material would be dealt with in a way that delivers the best practicable environmental outcome and is compliant with waste regulations.
- 2.4.7 An operational corridor would be required to enable the safe operation and maintenance of the OHL. This would vary depending on the type of woodland (based on species present) in proximity to the OHL, and the height of support structures used within each woodland area. In areas of native woodland it is usually possible to provide a narrower corridor due to a reduced risk of trees falling on the OHL.
- 2.4.8 Compensatory Planting will be considered for all woodland removed as a direct result of the project.

Access during Construction

- 2.4.9 Vehicle access is required to each pole location during construction to allow excavation and creation of foundations and pole installation. Existing tracks would be used where possible. Preference would be given to lower impact access solutions including the use of low pressure tracked personnel vehicles and temporary track solutions in boggy / soft ground areas to reduce any damage to, and compaction of, the ground. These journeys would be kept to a minimum to minimise disruption to habitats along the route. However, stone tracks (both temporary and permanent) may be necessary in some areas depending on existing access conditions, terrain and altitude.
- 2.4.10 Steel lattice towers and NeSTS would require the establishment of new stone tracks (both temporary and permanent), or other temporary track solutions as necessary, to facilitate construction and maintenance through the operational lifespan of the OHL. The exact specifications of these tracks would be determined once an alignment has been chosen and ground conditions are better understood, but it is anticipated that they would be formed of crushed aggregate stone and approximately 5 m wide. Material would be sourced from borrow pits, if any suitable sites are located in proximity to the OHL, or imported from off-site quarries.

Programme

- 2.4.11 It is anticipated that construction of the project would take place over a 15-month period, following the granting of consents, although detailed programming of the works would be the responsibility of the Contractor in agreement with SHE Transmission plc.
- 2.4.12 Every effort would be made to minimise disturbance to landowners, local residents and other stakeholders during construction by providing regular updates on works and restrictions via the site manager, community liaison manager and corporate affairs team.

⁴ Forestry Commission Scotland (2009) Control of Woodland Removal Policy

3. ROUTE SELECTION PROCESS

3.1 Guidance Document

3.1.1 The approach to route selection was informed by SHE Transmission plc's guidance 'Procedures for Routeing Overhead Lines of 132 kV and above'. The guidance sets out SHE Transmission plc's approach to selecting a route for an OHL. This document helps SHE Transmission plc to meet its obligations under Schedule 9 of the Electricity Act 1989, which requires transmission license holders:

- to have a regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interests; and
- to do what they reasonably can to mitigate any effect that the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.

3.1.2 The guidance develops a process which aims to balance these environmental considerations with technical and economic considerations throughout the route options process.

3.1.3 The guidance splits a project into the following stages:

- Pre-Routeing Activities: Selection of proposed connection option;
- Stage 1: Corridor Selection;
- Stage 2: Route Selection;
- Stage 3: Alignment Selection; and
- Stage 4: EIA and consenting.

3.1.4 The stages that are carried out can vary depending on the type, nature and size of a project and consultation is carried out at each stage of the process as appropriate. This project is currently at Stage 2: Route Selection, the objective of which is to identify a preferred route to be taken forward for consultation prior to selection of a proposed route. For this project, Stage 1: Corridor Selection has occurred simultaneously with Stage 2: Route Selection.

3.1.5 In consideration of the principles outlined in the guidance document, the method of identifying a preferred route in this study has involved the following four key tasks:

- Identification of the baseline situation;
- Identification of route options;
- Environmental analysis of route options; and
- Identification of a preferred route.

3.2 Area of Search

3.2.1 A Corridor was identified within which the identification and assessment of route options could be completed (see **Figure 1**). The Corridor was developed to encompass a range of feasible route options between the two connection points at Bhlaraidh Extension Wind Farm on-site substation and Fort Augustus substation. It was also informed by the System Planning Commercial Appraisal Paper prepared in Summer 2019 which considered alternative connection options.

3.3 Baseline Conditions

3.3.1 A baseline desktop study has been carried out to identify a broad range of potential constraints and opportunities within the Corridor, and its adjacent context. This has involved the following activities:

- Identification of environmental designated sites and other constraints, utilising GIS datasets available via NatureScot⁵ Site Link⁶;
- Identification of archaeological designations and other recorded sites, utilising GIS datasets available via Historic Environment Scotland^{7,8} and Highland Historic Environment Record (HER)⁹;
- SEPA interactive Flood Risk Mapping¹⁰;
- Review of the Highland-wide Local Development Plan (2012)¹¹ and The Inner Moray Firth Local Development Plan (2015)¹² to identify further environmental constraints and opportunities, such as regional level designations or other locations important to the public;
- Review of landscape character assessments of relevance to the Corridor¹³;
- Review of Native Woodland Survey of Scotland and Ancient Woodland Inventory data sets¹⁴;
- Review of Ordnance Survey (OS) mapping (1:50,000 and 1:25,000 and online GIS data sources from OS OpenData) and aerial photography (where available) to identify other potential constraints such as settlement, properties, walking routes, cycling routes etc.;
- Extrapolation of OS GIS data to identify further environmental constraints including locations of watercourses and waterbodies, roads classifications and degree of slope; and
- Review of other local information through online and published media such as tourism sites and walking routes.^{15,16,17}

3.3.2 Desk-based studies were supplemented by high-level walkover assessments by specialist consultants during August 2020. These walkover surveys obtained further site data and observations of localised constraints, such as signs of European Protected Species and composition of forestry. The results of these walkover surveys have informed the assessments presented herein.

3.4 Route Identification and Selection Methods

3.4.1 Route options were initially identified following desk-based review, partially informed by prior knowledge and experience of the area and making use of landform and existing infrastructure corridors, such as the Beaulieu-Denny OHL and the A82 alongside Loch Ness. In accordance with the steps outlined in the Holford Rules¹⁸ and SHE Transmission plc's guidance 'Procedures for Routeing Overhead Lines of 132 kV and above', the following principles have been taken into account as far as is practicable at this routeing stage and will be considered in more detail during Stage 3 (Alignment Selection):

- Avoid if possible major areas of highest amenity value (including those covered by national and international designations and other sensitive landscapes).
- Avoid by deviation, smaller areas of high amenity value.
- Try to avoid sharp changes of direction and reduce the number of larger angle towers required.

⁵ Scottish Natural Heritage (SNH) became NatureScot on 24 August 2020

⁶ NatureScot. NatureScot Site Link. [online] Available at: <https://sitelink.nature.scot/home>

⁷ Historic Environment Scotland Data Services. Portal. [online] Available at: <http://portal.historicenvironment.scot/>

⁸ Royal Commission on Ancient and Historical Monuments of Scotland. Canmore. [online] Available at: <http://canmore.rcahms.gov.uk/>

⁹ Highland Council Archaeology Service. Highland Historic Environment Record. [online] Available at: <https://her.highland.gov.uk/>

¹⁰ Scottish Environmental Protection Agency. SEPA Flood Maps [online] Available at: <http://map.sepa.org.uk/floodmap/map.htm>

¹¹ Highland Council (2012), Highland-wide Local Development Plan

¹² Highland Council (2015), Inner Moray Firth Local Development Plan

¹³ Scottish Natural Heritage. (2019). Scottish Landscape Character Types Map and Descriptions [online] Available at:

<https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

¹⁴ Available at data.gov.uk

¹⁵ Munro Magic [online] Available at: <http://www.munromagic.com/>

¹⁶ Walk Highlands [online] Available at: <http://www.walkhighlands.co.uk/>

¹⁷ Scotways [online] Available at: <https://www.scotways.com/>

¹⁸ Scottish Hydro Electric Transmission Limited (SHETL). (October 2004). *The Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines with NGC 1992 and SHETL 2003 Notes; Revision 1.01*

- Avoid skylining the route in key views and where necessary, cross ridges obliquely where a dip in the ridge provides an opportunity.
- Target the route towards open valleys and woods where the scale of poles will be reduced and views broken by trees (avoid slicing through landscape types and try to keep to edges and landscape transitions).
- Consider the appearance of other lines in the landscape to avoid a dominating or confusing wirescape effect.
- Approach urban areas through industrial zones and consider the use of undergrounding in residential and valued recreational areas.

3.4.2 Route options have been identified at widths of 1 km (see **Figure 1**) to allow for subsequent identification of alignments during the next stage of the process (Stage 3).


3.5 Appraisal Method

3.5.1 Appraisal of route options has involved systematic consideration against the topic areas included in **Table 3.1** overleaf.

RAG Rating

A RAG rating has been applied to each topic area within each section, indicating potential constraint to development. A high-level convention for assigning RAG ratings is shown in **Plate 3.1** below.

Plate 3.1: RAG Ratings

Performance	Comparative Appraisal
<p>Most Preferred</p>  <p>Least Preferred</p>	Low potential for the development to be constrained
	Intermediate potential for the development to be constrained
	High potential for the development to be constrained

Identification of a Preferred Route

3.5.2 The overall objective throughout the appraisal of route options has been to take full consideration of all environmental factors to minimise any potential adverse impacts on the environment whilst taking into account technical and cost considerations. Following review and consideration of the potential route options, a Preferred Route was arrived at.

Table 3.1: Topic Areas Considered

	Category	Sub-Topic
Environmental	Natural Heritage	Designations
		Protected Species
		Habitats
		Ornithology
		Geology, Hydrology and Hydrogeology
	Cultural Heritage	Designations
		Cultural Heritage Assets
	People	Proximity to Dwellings
	Landscape and Visual	Designations
		Character
		Visual
	Land Use	Agriculture
		Forestry
		Recreation
Planning	Policy	
	Proposals	
Engineering	Infrastructure Crossings	Major Crossings (132kV, 275kV, Rail, 200+m wide river, navigable canal, gas or hydro pipeline)
		Road Crossings
	Environmental Design	Elevation
		Pollution Areas
		Flooding
	Ground Conditions	Terrain
		Peat
	Construction / Maintenance	Access
		Angle Towers
	Proximity	Clearance Distance
		Proximity to Windfarms
Urban Environments		
Cost	Capital	Construction, Diversions, Public Road Improvements, Felling, Land Assembly, and Consents Mitigations
	Operational	Inspections and Maintenance

4. DESCRIPTION OF ROUTES

4.1 Identification of Route Options

4.1.1 This section of the report describes each of the route options identified for environmental appraisal (see **Figure 1**). Route options have been defined with 1 km widths to allow for subsequent identification of alignments during Stage 3 (Alignment Selection) of the project. The route options assessed are listed below, and described in the following section:

- Route Option 1 and variation Route Option 1A;
- Route Option 2 and variation Route Option 2A; and
- Route Option 3.

4.2 Route Option 1 and Route Option 1A

4.2.1 Route Option 1 represents the most westerly route option of those considered, travelling generally in a south-westerly direction from Bhlaraidh Extension Wind Farm on-site substation to the existing Beaully-Denny OHL wayleave, before then heading south-east within the vicinity of the Beaully-Denny 400 kV OHL wayleave to Fort Augustus substation at Auchterawe. This route option typically follows existing infrastructure corridors, such as the A887 and existing OHL infrastructure, including the Beaully-Denny line.

4.2.2 Route Option 1 travels directly south from the on-site substation until meeting the existing access track north of Carn an Tuairneir. It then heads south-west to south, generally following the existing wind farm access track and then deviating through commercial forestry until reaching the A887, passing to the west of Bhlaraidh.

4.2.3 Route Option 1 then generally follows the A887 and River Moriston, travelling in a south-westerly direction through areas of forestry. The route begins to diverge from the A887 within the vicinity of Dundreggan Dam, shifting more to the south and following the existing OHL between the dam and the Beaully-Denny OHL, passing to the south of Dundreggan and curving away from the River Moriston at Glenmoriston.

4.2.4 From this point, Route Option 1 follows the Beaully-Denny OHL all the way to Fort Augustus substation, passing through commercial forestry and patches of open ground.

4.2.5 A minor variation to Route Option 1 has been identified in the form of Route Option 1A, which has been appraised separately in this report. Route Option 1A overlaps Route Option 1 for most of its length, but deviates towards a more south south-west heading before Dundreggan, passing through Inverwick Forest and onto higher ground with less forestry cover. It continues along the more open west slope of Carn Tarsuinn, before merging with Route Option 1 once again as the latter enters Inchnacardoch Forest above Auchterawe and following the Beaully-Denny wayleave.

Photographs of route options 1 and 1A are shown in **Plate 4.1** below.

Plate 4.1: Route Option 1 and 1A Photographs



Photo 1: View westward of Dundreggan Dam



Photo 2: View northward along Beauly-Denny wayleave from Glenmoriston area



Photo 3: View eastward from within Beauly-Denny wayleave



Photo 4: View southward over Fort Augustus substation

4.3 Route Option 2 and Route Option 2A

- 4.3.1 Route Option 2 represents the most easterly route option of those considered, travelling generally south-east to Invermoriston, then south-west toward Fort Augustus before continuing through Inchnacardoch Forest toward Fort Augustus substation at Auchterawe. This route option typically follows the A887 and A82, as well as the Great Glen Way alongside Loch Ness.
- 4.3.2 Route Option 2 travels directly south from the on-site substation until meeting the existing access track north of Carn an Tuairneir. It then heads in a south-west to south direction, generally following the existing wind farm access track and then deviating partially through commercial forestry until reaching the A887, passing to the east of Bhlairaidh.
- 4.3.3 Route Option 2 then follows the A887 roadway and River Moriston towards Invermoriston, remaining more to the south-west of the road after passing Levishie. Route Option 2 passes partially over Invermoriston before heading south-west along the west shore of Loch Ness, passing through areas of commercial forestry and over the upper and lower paths of the Great Glen Way, until reaching Fort Augustus.
- 4.3.4 The route then continues its south-west heading, passing to the north Fort Augustus and through Inchnacardoch Forest, remaining on the higher ground above Auchterawe and eventually meeting the Beauly-Denny wayleave. At this point, Route Option 2 turns to take a south-east heading into Fort Augustus substation at Auchterawe.

4.3.5 A minor variation to Route Option 2 has been identified in the form of Route Option 2A, which has been appraised separately in this report. Route Option 2A differs from Route Option 2 by turning to head east rather than west at the existing access track north of Carn an Tuairneir, keeping to the higher open ground. Route Option 2A banks to the south at the south-east corner of the Bhlairaidh Extension Wind Farm site boundary, making use of a slight seat in the landform to head towards Levishie, passing through Levishie Wood, and re-joining Route Option 2.

4.3.6 Photographs of Route Options 2 and 2A are shown in Plate 4.2 below.

Plate 4.2: Route Option 2 and 2A Photographs



Photo 1: Open moorland near Bhlairaidh Wind Farm



Photo 2: View westwards along A82 adjacent to Loch Ness



Photo 3: View north-west towards Auchterawe from Fort Augustus Golf Course



Photo 4: View north-east along Loch Ness from Fort Augustus (Boathouse Lochside Restaurant)

4.4 Route Option 3

4.4.1 Route Option 3 represents the central, most 'direct' route option of those considered, travelling generally south-west along the same path as Route Option 1 and then deviating through Portclair Forest onto higher open ground. It passes between the peaks of Carn Dubh and Burach on a south south-west heading before passing into Inchnacardoch Forest and meeting the Beauty-Denny wayleave, and finally taking a south-easterly direction to Fort Augustus substation at Auchterawe. During route identification, this route option was recognised as the shortest and most direct route between the connection points while making sensible use of the landform.

4.4.2 Route Option 3 travels directly south from the on-site substation until meeting the existing access track north of Carn an Tuairneir. It then heads south-west to south, generally following the existing wind farm access track

and then deviating through commercial forestry until reaching the A887, passing to the west of Bhlairaidh properties.

- 4.4.3 Route Option 3 then generally follows the path of the A887 and River Moriston, travelling south-west along forestry areas for a short distance before taking a more southerly heading directly through Portclair Forest. Route Option 3 then breaks through the tree line into open ground to the west of Burach, banking slightly south-west to follow a more level path along the tree line, then heading south south-west over Loch a' Bhealaich.
- 4.4.4 Route Option 3 continues south south-west, passing to the east of the peak of Carn Dubh and through a slight seat in the landform, keeping away from the highest elevations. It continues to track over open ground until meeting Inchnacardoch Forest and continuing its path through plantation forestry until meeting the Beauly-Denny wayleave. From here it heads south-east to Fort Augustus substation at Auchterawe.

Photographs of Route Option 3 are shown in **Plate 4.3** below.

Plate 4.3: Route Option 3 Photographs



Photo 1: Distant view of higher ground of Route Option 3 from B862



Photo 2: View southward from Bhlairaidh wind farm



Photo 3: View from north slope of Burach, looking westward towards the Glen Moriston / Dundreggan



Photo 4: Felling activity where Route Option 3 meets Route Options 1 and 1A

5. ENVIRONMENTAL BASELINE

5.1 Introduction

- 5.1.1 The Corridor is located within the local authority area of The Highland Council.
- 5.1.2 Within the Corridor, settlement is largely confined to Fort Augustus and Invermoriston, with smaller communities and dwellings at Auchterawe, Levishie, Bhlaraidh, Dundreggan and within Glenmoriston located along main roads. These small settlements and dispersed dwellings are served by the main roads of the A82, which connects Glasgow to Inverness through Fort William, and the A887 which runs from Invermoriston, along the River Moriston, to the A87 at Bun Loyne. Various minor roads also connect settlements and dispersed dwellings to the wider area.
- 5.1.3 The Corridor notably includes Loch Ness, a popular area for tourism and outdoor activities, including boating, fishing, hiking and cycling. The loch is fed by the River Moriston at the settlement of Invermoriston, as well as by numerous smaller watercourses. The area around Loch Ness has many scenic qualities and elevated positions from which to obtain vistas of the loch and wider landscape.
- 5.1.4 The Corridor includes several forested areas, including those of Inchnacardoch, Inverwick, Portclair and Levishie. These are largely areas of commercial plantation forestry, which form part of the National Forest Estate and are managed by the Scottish Government's agency Forestry and Land Scotland (FLS). There are active harvesting operations within some of these forestry areas, with felling plans set for the next five years. Forestry tracks, many of which are gated, are present throughout the forestry areas enabling felling and haulage activities.
- 5.1.5 Fort Augustus, the largest settlement in the Corridor, contains numerous tourist, recreational and cultural heritage sites, and is approximately the mid-point of the Caledonian Canal running between Inverness and Fort William. It contains many accommodation businesses, cafes and restaurants, as well as boasting a golf course, boating tours and the Fort Augustus Abbey, which now serves as holiday homes and apartments within landscaped grounds. The Great Glen Way, a popular long-distance walking and cycling route, running between Fort William and Inverness, is present within the Corridor.
- 5.1.6 Other electrical infrastructure exists in the Corridor, the most notable of which are the 400 kV and 275 kV OHLs of the Beaulay-Denny link to Fort Augustus substation, itself situated in Auchterawe west of Fort Augustus. Dundreggan Dam collects water from the River Moriston for the Glenmoriston Power Station, and a 132 kV OHL runs between the dam and the Beaulay-Denny line; this forms part of the connection between Bhlaraidh Wind Farm and Fort Augustus substation, with the length between the wind farm and Dundreggan Dam formed by UGC which runs alongside the wind farm access track to Bhlaraidh and then generally follows the A887 to the dam. A second 132 kV OHL connects into the Beaulay-Denny corridor from the west. Several other 11 kV and 33 kV wood pool overhead lines are situated throughout the Corridor, generally following the main roads and branching off to settlements or individual dwellings.

5.2 Environmental Designations

- 5.2.1 The following environmentally designated sites or areas afforded recognition or protection within planning policy are present within the Corridor (see **Figures 2, 7 and 8**).
- River Moriston Special Area of Conservation (SAC): the River Moriston has been designated as a SAC, an internationally designated site under the Habitats Directive, for otter, Atlantic salmon, sea lamprey and freshwater pearl mussel.
 - Ness Woods SAC: designated for otter, western acidic oak woodland, and mixed woodland on base-rich soils associated with rocky slopes.

- The River Moriston is also designated as a Site of Special Scientific Interest (SSSI) for Atlantic salmon, freshwater pearl mussel, sea lamprey and otter. SSSIs are those areas of land and water that NatureScot¹⁹ consider best represent our natural heritage – its diversity of plants, animals and habitats, rocks and landforms, or a combination of such features.
- Levishie Wood SSSI: the Levishie Wood has been designated as a SSSI for its upland birch woodland; it is amongst the largest birch-juniper woodland in Inverness-shire, also containing oak, wych elm, blackthorn, scots pine, aspen, alder, holly and ash.
- Easter Ness Forest SSSI: designated for upland oak woodland and upland mixed ash woodland.
- Knockie Lochs SSSI: designated for Slavonian grebe (*Podiceps auritus*).
- Glen Tarff SSSI: designated for upland mixed ash woodland and beetle *bolitophagus reticulatus*.
- Loch Ness and Duntelchaig Special Landscape Area (SLA): dominated by the vast linear feature of Loch Ness and its dramatic landform trench, flanked by steep, towering wooded slopes that leads to undulating moorland ridges and contrasting remote interior plateau of upland lochs, small woods and rocky knolls.
- Geological Conservation Review (GCR) sites: areas of GCR are present near the shores of Loch Ness. These are sites deemed to contain geological and geomorphological features of national and international importance, and are selected through the Geological Conservation Review initiated by the Joint Nature Conservation Committee (JNCC) in 1977.
- Designated cultural heritage assets comprising Scheduled Monuments (SM), Listed Buildings and a Conservation Area; and
- A number of woodlands within the Corridor that are categorised as Ancient Woodland.

5.3 Natural Heritage

- 5.3.1 The Corridor generally comprises a mosaic of woodland and upland moorland. Woodland areas are dominated by conifer plantations, but there are numerous fragments of broadleaved and mixed woodland associated with riparian zones, field boundaries, road and railway sides, and around settlements. Some areas of woodland are categorised as Ancient Woodland. **Figure 2** shows those areas of Ancient Woodland classified as 1A and 2A, interpreted as semi-natural woodland from maps of 1750 (1A) or 1860 (2A) and continually wooded to the present day.
- 5.3.2 Upland moorland areas are dominated by a mosaic of wet heath and blanket bog, which qualify as Annex 1 habitats, as listed on the EU Habitat Directive 1992. There are several small upland waterbodies, and a number of small flushes, runnels and burns across the hillsides. Most upland areas are grazed by deer populations.
- 5.3.3 Smaller areas of agricultural land along the River Moriston are dominated by pasture field systems. Unimproved areas are generally dominated by acid grassland and rush-pasture and occupy field edges and riparian zones. Most unimproved areas are considered to be potentially groundwater dependent (see **Figure 3**).
- 5.3.4 Protected species such as otter, pine marten, badger, bat species, red squirrel, Atlantic salmon and freshwater pearl mussel are either known to be, or are likely to be present in the Corridor based on the presence of suitable habitat or being a qualifying feature of a nearby designated site.
- 5.3.5 The woodland and scrub habitat throughout the area will support breeding bird species, whilst more wetland areas could provide habitats of value to breeding waders and wildfowl. The Corridor also passes through open upland moorland, which may be of value to upland waders, raptors and grouse. Black grouse are known to be

¹⁹ Scottish Natural Heritage (SNH) became NatureScot on 24 August 2020

present in areas of woodland and moorland mosaics near Bhlairaidh, Inverwick and Portclair forests. Osprey were recorded in the Corridor through the course of high-level walkover surveys.

- 5.3.6 There are numerous watercourses, lochs and reservoirs within the Corridor, including River Moriston which is designated as a SAC. West of Invermoriston, the floodplain of the River Moriston broadens, and the meandering and migratory nature of the river is apparent locally. Other large rivers and water features include the Allt Saigh, River Oich and Loch Ness.
- 5.3.7 Loch Ness is designated as a Drinking Water Protection Area (DWPA) that serves the water treatment works (WTW) at Invermoriston. The DWPA includes the watercourses that drain to the loch. Water is abstracted directly from loch south-east of Invermoriston.
- 5.3.8 There are numerous properties which utilise private water supplies locally and the Scottish Environment Protection Agency (SEPA) has records of many authorised engineering and discharge activities within the Corridor (see **Figure 6**).
- 5.3.9 A number of watercourse crossings would be necessary for each potential route option. Some of these would have potentially steep crossing points and over wide watercourses, specifically the unnamed minor tributaries south of River Moriston and those to the north of River Oich.
- 5.3.10 Superficial mapping shows that typically superficial deposits are absent at higher elevations and Glacial Till, alluvium and / or glacio-fluvial sand and gravel shown adjacent to larger watercourses. The bedrock geology is characterised by psammite, semipelite and numerous igneous intrusions. Neither the superficial or solid geology are rare and are not considered to pose a development constraint.
- 5.3.11 Priority peatland mapping²⁰ highlights that there are several areas of recorded peatland, including nationally important (Class 1 or 2) carbon rich soils (see **Figure 5**).

5.4 Cultural Heritage

- 5.4.1 Baseline information on known cultural heritage assets recorded within the vicinity of the Corridor was obtained in August 2020 from datasets curated by Historic Environment Scotland and the Highland Historic Environment Record (HER).
- 5.4.2 Human occupation and land use have been severely restricted by the steepness of the terrain and narrowness of the valley floor and there is little evidence for Prehistoric or Mediaeval settlement. Faint traces of Early Modern cultivation and shielings are to be found on the higher ground above the extensive coniferous plantations. However, Glenmoriston did have some significance as a through route from the Great Glen to the West Coast, and this route has been controlled from possibly the Prehistoric and certainly the Mediaeval period by strategically placed defensive sites.

Designated Cultural Heritage

- 5.4.3 Designation is the legal recognition of some of Scotland's most important historic sites, buildings and places. It ensures that these assets are protected by law through the planning system and other regulatory processes. Designation includes Scheduled Monuments (SM) and Listed Buildings and the level of protection and how a site or place is managed varies depending on the type of designation.²¹
- 5.4.4 Within the Corridor, cultural heritage designations include:

²⁰Scottish Natural Heritage. (2016). Carbon and Peatland 2016 Map. [online] Available at: <http://gateway.snh.gov.uk/natural-spaces/index.jsp>

²¹ Historic Environment Scotland. (2019). *Designation Policy and Selection Guidance*.

- Five SMs, with statutory protection of National importance (high sensitivity): Levishie Cottage Fort, Dundreggan Farm Motte, Cherry Island Crannog, the Caledonian Canal and the Corrieyairack pass Military Road.
- Twenty-eight Listed Buildings, nineteen of which are within Fort Augustus: two Category A (national importance, high sensitivity); 13 Category B (regional importance, medium sensitivity); and three Category C (local importance, low sensitivity). Category A Listed Buildings consist of Fort Augustus Abbey, monastery and school, Abbey church and Torgyle Bridge. Eight further Listed Buildings are located within Invermoriston: six Category B and two Category C.
- One Conservation Area, with statutory protection of regional importance (medium sensitivity): Fort Augustus.

Cultural Heritage Assets

5.4.5 In addition to these designated assets, the Highland HER contains details of 33 non-designated assets of archaeological and cultural heritage interest within the route options. Of these, the majority are minor features of 18th – 19th century settlement and land use or associated with general wade's Military Road. Field survey carried out for this appraisal identified further, previously unrecorded minor features of local significance and one feature of regional significance at Inverwick.

5.5 Landscape Character and Visual Amenity

5.5.1 Landscape character within the Corridor ranges from the wooded valleys of Glen Moriston and the Great Glen; to the rugged uplands that separate these two valleys; and beyond to the rocky moorland plateau within which the existing Bhlariadh wind farm is situated. Settlement and infrastructure (including OHLs) are clustered along main transportation routes on valley floors while areas of coniferous forestry and mixed woodland dominate valley slopes. Both valleys share these attributes but differ slightly in character with Glenmoriston featuring a narrower valley floor, meandering river and more intimate semi-enclosed character. By contrast, the Great Glen, a popular transport corridor and tourist route, is characterised by a broader valley floor which holds the long, linear Loch Ness and farmed and settled alluvial plains at its head, around Fort Augustus and at the foot of Glen Moriston. Upland areas are more open and remote in character, although some features of human development are present, including wind turbines of Bhlairaidh wind farm, OHLs and associated wayleave corridors.

Designations

5.5.2 Loch Ness and Duntelchaig Special Landscape Area (SLA) is present within the Corridor, which includes the vast and linear Loch Ness and the bounding hill slopes on the loch's western and eastern shores²². Several 'Special Qualities' are identified by THC relating to the dramatic landform of the Great Glen, with steep-sided wooded slopes; the contrasting remote moorland plateau of upland lochs and rocky knolls; and the historic features and myths associated with the loch and its environs.

Landscape Character Types (LCTs)

5.5.3 There are six Landscape Character Types (LCTs) within the Corridor as classified in the updated SNH (now NatureScot) Landscape Character Types published in 2019²³. Distribution of these LCTs is shown in **Table 5.1** below and illustrated on **Figure 9**.

²² The Highland Council (2011). *Assessment of Highland Special Landscape Areas*. Available at: https://www.highland.gov.uk/directory_record/712044/special_landscape_area_citations

²³ Scottish Natural Heritage. (2019). *Scottish Landscape Character Types Map and Descriptions* [online] Available at: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

Table 5.1: Summary of Landscape Character Sensitivity Appraisal

LCT	Route Option					Landscape Sensitivity Rating
	1	1A	2	2A	3	
LCT 220: Rugged Massif - Inverness	•	•			•	Low ²⁴ or Medium-High ²⁵
LCT 222: Rocky Moorland Plateau - Inverness	•	•	•	•	•	Medium
LCT 225: Broad Steep-Sided Glen	•	•	•	•	•	Medium or High ²⁶
LCT 226: Wooded Glen - Inverness	•	•	•	•	•	Medium

Potential Visual Receptors

5.5.4 Visual receptors within the Corridor comprise three different types:

- Visual receptors in built properties including residential areas and places of work, for example in Fort Augustus and nearby settled areas, Invermoriston, Dundreggan, Bhlairaidh, Levishe and Torgyle Bridge;
- Visual receptors on routes including roads and recreational routes, for example on the A82 and A887, core paths, Scottish Hill Tracks, cycle routes, the Great Glen Way and the Caledonian Canal; and
- Visual receptors in other outdoor locations where the view is considered of recreational importance, for example golf courses, roadside viewing areas, picnic areas.

5.6 Land Use and Recreation

Forestry

5.6.1 Forestry is a common land use within the Corridor, with a number of productive conifer plantations on a fell and restock cycle. Many of these plantations form part of the National Forest Estate and are managed by the Scottish Government's agency FLS. **Figure 11** shows the distribution of forest on the National Forest Estate within the Corridor. Private woodland, comprising both a mix of conifer and mixed broadleaf woodland, also exist throughout the Corridor. Much of the woodland throughout the Corridor is categorised as Ancient Woodland.

Agriculture

5.6.2 Areas of agricultural land are classified by The Macaulay System of Land Capability for Agriculture.²⁷ Based on this data, land within the Corridor is not considered to be of high agricultural value. Areas of Class 4.1 and 4.2 are present, which have limited potential for producing crops, as are areas of Class 5.1 and 5.2 agricultural land, which are capable of supporting improved grassland.

5.6.3 Agricultural land classifications are displayed on **Figure 10**.

²⁴ Low through the existing distinct corridor of overhead lines

²⁵ Medium-High across the higher open slopes and summits

²⁶ High on steep side-slopes around Loch Ness

²⁷ The James Hutton Institute. (2020). *Land Capability for Agriculture in Scotland*. [online] Available at:

<https://www.hutton.ac.uk/learning/exploringscotland/land-capability-agriculture-scotland> [Accessed 11 September 2020].

Recreation

- 5.6.4 The Corridor is popular with walkers, hikers, cyclists, canoeists, anglers, boaters and shooters. Tourism, including the pursuit of recreational activities contributes significantly to the local economy annually.
- 5.6.5 There are a large variety of points of recreational interest within the Corridor, many of which are also valued as tourist sites. These include places appreciated for their cultural heritage, historic, recreation and landscape and visual attributes. There are also tourist information points, hiking trails, fishing spots, canoe / kayak sites, caravan parks and campsites, picnic sites, a golf course and other landmarks distributed throughout the Corridor, often clustered near settlements, along main roads and near to other sites of tourist interest. These are illustrated on **Figure 10**.
- 5.6.6 Loch Ness is popular for boating and fishing, and forms part of the Caledonian Canal between Inverness and Fort William. The Great Glen Canoe Trail, Scotland's first dedicated long distance canoe trail launched in 2012, follows the Caledonian Canal and the lochs of the Great Glen.²⁸ The section of the River Moriston downstream of Dundreggan Dam is a popular spot for salmon fishing, as well as kayaking given the 'rapids' that have been created by construction of the dam itself.
- 5.6.7 The Great Glen Way is a notable hiking route, with the upper and lower tracks passing along the higher ground above the west shore of Loch Ness. It stretches over 118 km between Inverness and Fort William, following the major natural faultline which divides Scotland from coast to coast. The Loch Ness 360 Route, which loops the entirety of Loch Ness, also passes through the Corridor on both sides of the loch. Numerous core paths are present, principally north and north-west of Fort Augustus and Auchterawe, and also present near Invermoriston. These, in combination with the Scottish Hill Tracks between Fort Augustus and Glenmoriston, provide numerous hiking opportunities to local residents and visitors.
- 5.6.8 Other notable recreational spots include the Glenmoriston Shooting Ground, formerly known as the Loch Ness Gun Club, to the east of Bhlairaidh. This club hosts various events through the year, including Scottish Selection, Grand Prix and Championships, a winter trap shooting series, and practice and training days.²⁹ The Allt na Criche Viewpoint is a short tree-lined climb to a view over Loch Ness, situated just off the A82 north-east of Fort Augustus, offering views of the loch and the Fort Augustus Abbey and an extension on to the Great Glen Way. Lastly, Fort Augustus contains numerous places for visitors to stay, hosting a variety of bed & breakfasts and self-catering apartments and cabins.

5.7 Planning

- 5.7.1 The current Development Plan for the area comprises the Highland-wide Local Development Plan (HwLDP) which was adopted in April 2012, and the Inner Moray Firth Local Development Plan, adopted in July 2015.
- 5.7.2 The HwLDP sets out both the broad strategic themes in its vision statement, as well as local planning matters, and recognises that additional electricity transmission and distribution infrastructure will need to be developed in the Highland region, both to meet local needs and to contribute to renewable energy generation targets. It is supportive of projects which will not have an unacceptable significant impact on the environment, and contains numerous policies related to the protection of the natural and built environments that will be relevant in the consideration of the development of electricity infrastructure.
- 5.7.3 The Emerging Highland-wide Local Development Plan (EHwLDP) Main Issues Report was consulted upon in September 2015; however, progress was halted in summer 2016 to allow the emerging area Local Plans to progress. In December 2017 the Scottish Government published a Planning Bill outlining potential changes to

²⁸ Scotland's Great Trails. (2020). *Great Glen Canoe Trail*. [online] Available at: <https://www.scotlandsgreattrails.com/trail/great-glen-canoe-trail/> [Accessed 21 September 2020].

²⁹ Glenmoriston Shooting Ground. (2020) [online] Available at: <https://glenmoristonshootingground.com/> [Accessed 14 September 2020].

the Scottish planning system. This includes possible changes to the content of Local Development Plans and how they are prepared, and a broadening of the issues covered by national policy, namely SPP. As such, Highland Council have postponed review of the HwLDP until the implications of the Planning Bill are more clearly understood.

- 5.7.4 The Inner Moray Firth Local Development Plan sets out a guide for development of settlements within the Inner Moray Firth and includes a plan for Fort Augustus.
- 5.7.5 Current applications within or adjacent to the route options include an application for a new house approximately 250 m south-west of Fort Augustus substation, and the Bhlaraidh Extension Wind Farm, the driver for this project, which is currently at Scoping stage.

6. COMPARATIVE APPRAISAL

6.1.1 This section provides a summary of the potential environmental, technical and economic effects identified for each route option following the topic areas shown in **Table 3.1**. Reference should also be made to **Figures 2 to 11** which illustrate potential environmental baseline constraints identified under each topic.

6.2 Environmental Topic Areas

Natural Heritage

Designations

- 6.2.1 The River Moriston SAC is present within all route options for varying lengths, as shown on **Figure 2**. All route options are in hydrological connectivity with the SAC and would require appropriate controls at construction stage to ensure no impairment of water quality which would compromise the qualifying interests of the designated site. Route Option 2 and 2A intersect with the Levishie Wood SSSI; Route Option 2A passes entirely through the designated area of Levishie Wood, while Route Option 2 has partial coverage east of Bhlaraidh and north of Levishie. Both of these route options also have hydrological connectivity with the SSSI (2A more so than 2), and the point above in relation to construction phase controls apply here.
- 6.2.2 As shown on **Figure 2**, areas of Ancient Woodland are present throughout the Corridor. Expanses of Ancient Woodland are present within each route option, generally following the A82 and A887 roadways and diminishing towards areas of higher ground. The areas designated as Ancient Woodland have forestry structure with a mixture of native and nearly-native woodland and areas of Plantation on Ancient Woodland Sites (PAWS), the latter of which is considered less sensitive than the standing native woodlands. Route Option 3 has the least presence within Ancient Woodland, while the other route options are largely comparable in their coverage.
- 6.2.3 A GCR site is present within Route Option 2 and 2A, which is entirely forested with commercial conifers (**Figure 2**). Opportunities exist to avoid this designation and it is considered to pose minimal constraint to development.
- 6.2.4 Route Options 2 and 2A have been assigned **Red** RAG ratings for Natural Heritage (Designations) due to constraints posed by the Levishie Wood SSSI. Route Option 1, 1A and 3 have moderate potential for constraint posed by designated sites, and an **Amber** RAG rating has been applied to these route options for Natural Heritage (Designations).

Protected Species

- 6.2.5 For all route options, there is abundant woodland, and woodland edge habitat, which could provide suitable habitat for badger, red squirrel, pine marten and bat species. Riparian zones could provide suitable habitat for otter. Signs of some of these species were picked up during walkover surveys, as well as a badger sett within Route Option 1. These are shown on **Confidential Figure 4**.
- 6.2.6 All route options have been allocated a RAG rating of **Amber** for Protected Species.

Habitats

- 6.2.7 All route options are situated within an expanse of open moorland, dominated by wet heath communities, between the Bhlaraidh Extension Wind Farm on-site substation and lower ground towards the A887 (**Figure 3**). Smaller areas of highly sensitive blanket bog and flush / mire are present near the substation; however, opportunities exist to largely avoid these.
- 6.2.8 Route Option 1 and 1A pass through woodland habitats along the River Moriston, comprising semi-natural broadleaved or mixed woodland, transitioning to commercial conifer plantation forestry. Route Option 1A would

also pass through areas of open moorland, dominated by wet heath habitats, where it deviates from Route Option 1.

- 6.2.9 Along the A887 towards Invermoriston and south along the water's edge of Loch Ness, Route Options 2 and 2A pass primarily through woodland habitats, some of which comprise semi-natural broadleaved or mixed woodland.
- 6.2.10 Route Option 3 passes through woodland habitats on the south side of River Moriston, then crosses open moorland dominated by wet heath communities with pockets of blanket bog and acid flush habitats.
- 6.2.11 For all route options, the sensitive habitats identified present moderate constraints and an **Amber** RAG rating has been applied to all route options for habitats.

Ornithology

- 6.2.12 All route options could potentially result in the loss of small areas of woodland and scrub habitat which support breeding bird species; however, these habitats are abundant in the local and wider area. Grassland habitats, present to some degree in all route options, are of value to breeding waders and wildfowl, and open moorland, also present in all route options, is of value to upland species such as waders and black grouse.
- 6.2.13 An active osprey nest was identified near Dundreggan Dam during initial walkover surveys (noted on **Confidential Figure 4**), within Route Options 1 and 1A, and adjacent to Route Option 3. Mitigation measures would be required to limit potential effects on this nest and resident birds.
- 6.2.14 Available information from the Bhlaraidh Wind Farm project highlights the presence of several sensitive bird species in the wider area, including black grouse (and known lek locations within all route options near the Bhlaraidh Extension Wind Farm), Slavonian grebe, golden eagle, divers, golden plover, greenshank and dunlin.
- 6.2.15 Full breeding bird surveys would be required to fully assess likely ornithological constraints for all route options; however, in the absence of these surveys it is generally considered that there would be moderate constraints to development posed by ornithology given the habitats present and types of bird species previously recorded in the wider area. As such, Route Options 1, 1A, 2 and 2A have an **Amber** RAG rating applied for ornithology. Route Option 3 has several lochans present on the higher ground, suggesting diver species may be present within the vicinity of the route. Ornithology constraints are considered to be potentially greater for this route option, and a **Red** RAG rating has been conservatively applied for ornithology to account for this.

Geology, Hydrology and Hydrogeology

- 6.2.16 As shown on **Figure 5**, priority peatland mapping highlights that discrete areas of Class 1 peatland are present near the Bhlaraidh Extension Wind Farm on-site substation within all route options, and within Route Option 1 and 1A within the Beauty-Denny corridor. Small areas are also present within Route 2 and 2A north-west of Fort Augustus and within Route Option 3 on the high ground near Carn Dubh. Areas of Class 2 peatland are also present to varying degrees through the route options, with most in the vicinity of the on-site substation and within Route Option 1, 1A and 3 on the slopes of Carn Dubh. Route Option 2 and 2A are generally devoid of peatland soils beyond the area of Bhlaraidh Extension Wind Farm.
- 6.2.17 Peat is not considered to be a significant development constraint at this stage as higher-class areas can largely be avoided and micro-siting can be used to mitigate potential effects. As Route Option 3 may require new access tracks and larger structures to support the OHL, effects on peat soils may be greater and as such is less preferred.
- 6.2.18 Watercourse crossings would be necessary for all route options within the River Moriston floodplain, and all permanent structures would need to be set back from the watercourse channel to protect against exposure from

natural processes leading to watercourse meandering and migration (**Figure 6**). Route Option 1 and 1A follow the River Moriston for the greatest distance and cross numerous smaller watercourses which feed into it. Route Option 2 and 2A cross smaller watercourses associated with the River Moriston and Loch Ness, and are located within the Drinking Water Protection Area (DWPA) associated with Loch Ness (see below). Route Option 3 follows the shortest length of River Moriston and crosses fewer smaller watercourses.

6.2.19 SEPA floodplain mapping shows that the Medium likelihood of flooding floodplain extents associated with the River Moriston are notable along the length south and west of Dundreggan, within the bounds of Route Option 1 and 1A. These flooding extents are reduced further downstream, near Dundreggan Dam and as far as Levishie, but still extend as far as the A887 roadway in places. Around the area of Levishie, within Route Option 2 and 2A, the Medium floodplain extents are more pronounced once again, covering much of the route options to the south of the roadway as far as Invermoriston. Route Option 2 and 2A are also within the Medium flood extents of Loch Ness; however, with one notable exception east of Fort Augustus, these remain to the south of the A82 roadway and are unlikely to conflict with any new OHL within these routes. Route Option 3 largely outwith floodplains.

6.2.20 The immediate Loch Ness surface water catchment, including its major tributaries, are designated as a surface water DWPA that serves several existing water treatment works (WTW) including a new WTW south of Invermoriston. Water is abstracted directly from Loch Ness within this route. Surface water here, would therefore, be vulnerable to pollution. Sensitive routeing and appropriate pollution prevention controls would be required for Route Option 2 and 2A to protect the water quality of this DWPA. Subject to best practice construction techniques that safeguard water quality, it should be possible to mitigate impacts on the DWPA.

6.2.21 All route options have been allocated a RAG rating of **Amber** for Geology, Hydrology and Hydrogeology.

Cultural Heritage

6.2.22 Potential direct or indirect impacts on the following cultural heritage designations were identified within each of the route options as outlined in **Table 6.1** below:

Table 6.1: Designated and Non-Designated Cultural Heritage Assets

Criterion	Route Option 1	Route Option 1A	Route Option 2	Route Option 2A	Route Option 3
Scheduled Monuments (SMs)	Dundreggan Motte, SM 11875	Dundreggan Motte, SM 11875	Levishie Cottage Fort SAM 4567 Cherry Island Crannog SM 9762	Levishie Cottage Fort SM 4567 Cherry Island Crannog SM 9762	Levishie Cottage Fort SM 4567, Corrieyairack Pass military road SM 6143
Category A Listed Buildings	Torgyle Bridge, LB14996	Torgyle Bridge, LB14996	Invermoriston Home Farm LB15021, Fort Augustus Abbey LB 1861	Invermoriston Home Farm LB15021, Fort Augustus Abbey LB 1861	
Inventory Gardens and Designed Landscapes (GDLs)	No GDLs on route	No GDLs on route	No GDLs on route	No GDLs on route	No GDLs on route
Inventory Historic Battlefields	No Inventory Historic Battlefields on route	No Inventory Historic Battlefields on route	No Inventory Historic Battlefields on route	No Inventory Historic Battlefields on route	No Inventory Historic Battlefields on route

Criterion	Route Option 1	Route Option 1A	Route Option 2	Route Option 2A	Route Option 3
Category B Listed Buildings	14 Category B listed buildings within Fort Augustus	14 Category B listed buildings within Fort Augustus	6 Category B listed buildings within Invermoriston	6 Category B listed buildings within Invermoriston	14 Category B listed buildings within Fort Augustus
Conservation Areas	Fort Augustus	Fort Augustus	Fort Augustus	Fort Augustus	Fort Augustus
Properties in Care	No Properties in Care on route	No Properties in Care on route	No Properties in Care on route	No Properties in Care on route	No Properties in Care on route
Regional Significance HER Sites			Wester and Easter Portclair	Wester and Easter Portclair	Dandaleith Pictish Stone (NJ24NE0097))
Category C Listed Buildings	3 Category C listed buildings within Fort Augustus	3 Category C listed buildings within Fort Augustus	2 Category C listed buildings within Invermoriston	2 Category C listed buildings within Invermoriston	3 Category C listed buildings within Fort Augustus
Local Significance HER Sites	8 recorded in Highland HER	8 recorded in HER	11 recorded in HER	11 recorded in HER	7 recorded in HER
Non-Inventory Designed Landscapes (NIDLs)	No NIDLs in route	No NIDLs in route	No NIDLs on route	No NIDLs on route	No NIDLs in route
Unrecorded Sites	4 sites recorded at Inverwick	4 sites recorded at Inverwick	46 sites located during field survey	46 sites located during field survey	2 previously unrecorded sites

Cultural Heritage Designations

- 6.2.23 There are no designated sites within the proposed route options.
- 6.2.24 Potential impacts are likely to be limited to minor to negligible indirect visual impact for Route Option 1 and 1A and as such these route options have been allocated a **Green** RAG rating.
- 6.2.25 Route Option 2 has the potential for minor visual impacts on two SMs, Levishie Cottage Fort and Cherry Island Crannog, and on Listed Buildings within Invermoriston and Fort Augustus. For this reason, this route option was allocated an **Amber** RAG rating for Designated Cultural Heritage Assets.
- 6.2.26 Route Option 2A is the closest of the route options to Levishie Cottage Fort and the most likely to have a significant negative visual impact on this SM. For this reason, a **Red** RAG rating has been allocated to this route for Designated Cultural Heritage Assets.
- 6.2.27 Based on the potential minor visual impacts on two SMs, Levishie Cottage Fort and Correyairack Pass military road, at distances of approximately 6 km and 11 km respectively, Route Option 3 has been allocated a RAG rating of **Amber** for Designated Cultural Heritage Assets.

Cultural Heritage Assets

- 6.2.28 Taking into account the opportunities for avoidance through design and the adoption of other standard working practices, it is anticipated that potential impacts could be minimised across Route Options 1, 1A and 3 and as such they have all been allocated a **Green** RAG rating for Cultural Heritage Assets.
- 6.2.29 Route Options 2 and 2A are considered to have the greatest potential for direct impact on cultural heritage assets of regional and local significance, notably on the townships of Wester and Easter Portclair and minor associated features in the vicinity, and have been allocated an **Amber** RAG rating for Cultural Heritage Assets as a result.

People

- 6.2.30 There are a number of dwellings and buildings scattered throughout the Corridor, as shown on **Figure 8**. Buffers of 100 m have been placed on all built structures identified. Particular pinch points for each of the route options are noted as follows:
- Route Option 1: built properties at Bhlaraidh, including an individual structure west of Bhlaraidh adjacent to the A887. Built properties are present further south-west at Dundreggan Dam, also adjacent to the A887. Further built properties are present near Fort Augustus substation at Auchterawe.
 - Route Option 1A: as per Route Option 1; this route option does not pass over any additional identified built properties.
 - Route Option 2: built properties are relatively numerous within this route option, particularly in Invermoriston, along the A82 adjacent to Loch Ness, and through Fort Augustus. Built properties are also present at Levishie, Auchterawe, and to the east of Fort Augustus adjacent to the A82.
 - Route Option 2A: as per Route Option 2; this route option does not pass over any additional identified built properties.
 - Route Option 3: built properties at Bhlaraidh, including an individual structure west of Bhlaraidh adjacent to the A887. Further built properties are present near Fort Augustus substation at Auchterawe.

- 6.2.31 It is considered that dwellings and buildings pose minimal constraints for Route Option 1, 1A and 3 as there are very few present within the routes and it is likely that sufficient setback (over 100 m) can be achieved from all built properties. As a result these options have been allocated a RAG rating of **Green**. Avoidance of all built properties may prove more difficult for Route Option 2 and 2A, but some opportunities exist to do so, and an **Amber** RAG rating has been applied to these routes.

Landscape and Visual

Designations

- 6.2.32 Route Option 2 and 2A pass through Loch Ness and Duntelchaig SLA (see **Figure 8**) for approximately 7.5 km within an area characterised by the steep wooded slopes adjacent to Loch Ness. There is potential for an OHL through this part of the SLA to affect some aspects of its Special Qualities such as the profile of the imposing, steep-sided glen, woodland and forest on the glen-side and the appearance of the skyline ridge. The steep side-slopes and ridge lines are noted to be sensitive to development which may interrupt the simple form and also to any access routes, whilst the possibility of affecting the Great Glen Way walking route which is also recognised in the Special Qualities also increases the potential for effect. Both Route Option 2 and 2A have been allocated a RAG rating of **Amber** for Landscape Designations.

6.2.33 Route Option 1, 1A and 3 do not pass within any landscape designations and it is unlikely that Special Qualities of the Loch Ness and Duntelchaig SLA would be affected by these routes. They have consequently been allocated a RAG rating of **Green** for Landscape Designations.

Landscape Character

6.2.34 Route Option 1, 1A and 3 pass through four of the LCT's present within the Corridor, while Route Option 2 and 2A pass through three LCTs, avoiding LCT 220: Rugged Massif – Inverness (see **Figure 9**). For Route Option 2 and 2A, potential landscape effects may relate to the sensitivities of the steep side-slopes of the Great Glen and potential for localised landscape effects around Invermoriston. For Route Option 3, potential landscape effects relate to the introduction of this type of development to an upland area locally absent of similar features. For Route Option 1 and 1A, potential landscape effects relate to the combined experience of multiple OHLs and potential for cumulative effects, particularly through Glen Moriston. For all routes, the presence of commercial forestry, other OHL structures and wind turbines may reduce sensitivity to change and provide opportunities for this type of development.

6.2.35 Broadly speaking, all route options may lead to some potential effects on landscape character but, assuming an appropriate alignment can be achieved, the LCTs within the Corridor have the potential to accommodate this type of development, making best use of opportunities for mitigation, such as screening from landform and tree cover. Some forestry removal is likely to be required for all routes, however it is anticipated this will be kept to a minimum through careful siting of the OHL alignment (Stage 3 of the routeing process).

6.2.36 All route options have been allocated a RAG rating of **Amber** for Landscape Character although Route Option 2, 2A and 3 would potentially present more constraints from a Landscape Character perspective.

Visual

6.2.37 Route Option 1 has the potential to result in visual effects for receptors in Glen Moriston and the Great Glen, particularly where it crosses the A887 and where it travels up the Beauly-Denny corridor, and depending on the alignment, as it routes along the valley floor. Receptors at the western end of the valley (e.g. near Dundreggan and Torgyle Bridge), where there are more open views of the hillside, may experience more potential cumulative effects. Forestry would offer considerable opportunities for screening, but some tree removal would be required for wayleaves which could increase the dominance of OHLs within views leading to cumulative effects. From the Great Glen, visual effects are likely to be more limited, experienced from some areas in and around Fort Augustus where it would be relatively distant and seen in the context of several existing OHLs and wind turbines on the skyline, and within commercial forestry and the Beauly – Denny OHL corridor. Closer range views may be obtained from core paths and tracks in Inchnacardoch Forest and a short section of minor road along Auchterawe (depending on where this transitions from OHL to UGC).

6.2.38 Route Option 1A is similar to Route Option 1 but diverges as it rises out of Glen Moriston and may be visible on high ground where a new wayleave through forestry would likely be required, although crossing open ground may be possible for some of this section. As with Route Option 1, there would be cumulative effects associated with this route but effects associated with this route option but there may be options to mitigate effects through careful design.

6.2.39 Route Option 2 has the potential to result in visual effects for receptors in Glen Moriston, although woodland may mitigate the majority of these, and from the Great Glen where there is the potential for views of a wayleave and route across the hillside from areas of Fort Augustus. Views of this route would also be likely and would be potentially significant from the Great Glen Way upper and lower routes depending on the alignment. This would include possible felling for a wayleave through steep forestry alongside Loch Ness. A potential wayleave through woodland and forest on the glen-side slope may also be visible from boats and other water users on Loch Ness, and potentially from the southern side of Loch Ness, although the steepness of the slope would be likely to minimise views from the A82.

- 6.2.40 Route Option 2A would have similar potential for visual effects as Route Option 2, although there is potentially greater sensitivity to views from a small group of properties at Levishie, depending on the alignment.
- 6.2.41 Route Option 3 has the potential to result in visual effects on receptors in the Great Glen and potentially Glen Moriston. In Glen Moriston, it would potentially be visible from very short sections of the A887, although screened from the majority of views by trees. From the Great Glen, landform would screen the majority of views but it may feature in views from some areas in and around Fort Augustus, seen on high ground, potentially skylined although seen in the context of other OHLs, wind turbines and commercial forestry. A new wayleave may also be visible, depending on forestry felling plans, and taller bulkier structures would increase its prominence, depending on the chosen alignment. The route would also cross some Core Paths near Auchterawe, causing brief disruption to views and lead to a cumulative effect of OHLs crossing these routes, although those closest to Fort Augustus Substation would be crossed by buried cable.
- 6.2.42 Route Option 2 and 2A have been allocated a RAG rating of **Red** for Visual, as there are more limited opportunities for mitigation and the visual context has limited potential to accommodate this type of development, particularly considering visual sensitivity of receptors on the Great Glen Way. Route Option 1, 1A and 3 have been given an **Amber** RAG rating for Visual as there are greater opportunities for mitigation and potential to accommodate a new OHL. On balance there is a slight preference for Route Option 1A and 1 over Route 3 due to the potential for skylined views of Route Option 3 in parts of the view not currently affected by this type of development, and cumulative visual effects associated with Route Options 1 and 1A from Glen Moriston (relating to the Beaully-Denny OHL corridor).

Land Use

Agriculture

- 6.2.43 The agricultural land within the route options is identified as being of Class 4.1 or lower (**Figure 10**). As this is not a particularly sensitive or fertile category any impacts on agriculture as a result of any of the route options is considered to be low.
- 6.2.44 As such, a RAG rating of **Green** has been allocated to all route options for impacts on Agriculture.

Forestry

- 6.2.45 Route Option 1 and 1A passes through a mixture of native woodland and PAWS, the latter of which is considered to be less sensitive (**Figure 11**). Native woodland, and areas of Caledonian Pinewood, are densest near the Beaully-Denny OHL, presenting constraint to development. Best use would have to be made of areas of open ground, favouring areas of PAWS over native woodland where possible, in order to limit adverse effects on forestry. Route Option 1A deviates near Dundreggan towards higher, more open ground, and providing increased opportunities to avoid areas of Caledonian Pinewood. Aerial imagery also suggests the woodland south south-west of Dundreggan is thinner, potentially offering opportunities to reduce felling requirements. Once clear of native woodland, the routes through productive conifer plantation and small areas of open ground until reaching Fort Augustus substation; conifer plantation is considered to be low sensitivity woodland.
- 6.2.46 Route Option 2 and 2A pass through areas of PAWS and the Levishie Wood SSSI (see **Figure 11**). The designated site is considered to have a high degree of development constraint as direct impacts must be avoided, and there are considered to be opportunities to do so for Route Option 2, but not 2A. The routes continue through a mixture of native woodland and PAWS, more so the latter, through Invermoriston and along the shore of Loch Ness to Fort Augustus. The last 3 km or so to Fort Augustus substation is productive conifer plantation, with some discrete areas of native woodland.
- 6.2.47 Route Option 3 passes through a mixture of native woodland and PAWS, more so the latter. It passes through a discrete area of Caledonian Pinewood, but it is considered that there are opportunities to avoid this. Route

Option 3 then travels up to higher, open ground with no notable forestry cover, eventually passing through productive conifer plantation for approximately 3 km before reaching Fort Augustus substation.

6.2.48 An **Amber** RAG rating has been applied to all route options except Route Option 2A, which has been assigned a **Red** rating due to its unavoidable interaction with the Levishie Wood SSSI. Route Option 2 is **Amber** on the assumption that the SSSI designation would be avoided. Route Option 3 is the preferred for forestry due to the reduced woodland cover and greater opportunities to avoid the more sensitive woodland areas.

6.2.49 The FLS Fort Augustus and Glen Moriston Indicative Felling Plan indicates planned areas of felling throughout the Corridor between 2020 and 2030. These areas offer potential opportunities to select alignments which take advantage of recent or planned felling to reduce felling requirements associated with the development. These will be reviewed as the project progresses to alignment selection (Stage 3) to explore these opportunities further.

Recreation

6.2.50 There are numerous points of recreational interest along each of the route options (see **Figure 10**). Table 6.2 lists the recreational assets within each route option that may potentially be impacted:

Table 6.2: Recreational Assets Potentially Impacted

Recreational Asset	Route Option 1	Route Option 1A	Route Option 2	Route Option 2A	Route Option 3
The Glenmoriston Shooting Ground	X	X	X		X
Salmon fishing in the River Moriston	X	X	X		X
Canoeing in the River Moriston	X	X	X		X
Scottish Hill Tracks between Fort Augustus and Glen Moriston	X	X			X
The Great Glen Way	X	X	X	X	X
The Loch Ness 360 Route			X	X	
The Alt na Criche viewpoint			X	X	
Core Paths between Fort Augustus and Glen Moriston	X	X			X
Picnic sites near Auchterawe	X	X			X
Picnic site in Invermoriston			X	X	
Telford Bridge			X	X	
Invermoriston Falls			X	X	
Boating and Fishing on Loch Ness			X	X	
Camping and caravanning site south of Invermoriston			X	X	

6.2.51 Route Option 1, 1A and 3 would likely have limited and temporary disruption on recreational activities, and a **Green** RAG rating has been applied. Route Option 2 and 2A are likely to have greater impact on recreational sites, particularly the Great Glen Way, and an **Amber** RAG rating has been applied.

Planning Context

6.2.52 Adherence to National, Regional and Local planning policy will in large part depend on avoiding or minimising potential constraints noted, particularly in relation to potential impacts on the natural environment given presence of designated sites and areas of landscape importance.

6.2.53 As such, Route Options 1, 1A and 3 have been allocated an **Amber** RAG rating to reflect the potential for impact on some of these features, as noted above, albeit opportunities do exist to minimise potential impacts. However, Route Options 2 and 2A have been allocated a **Red** RAG rating given high potential for constraint in some topic areas, particularly in relation to designated sites and visual impact.

6.2.54 At the current stage there do not appear to be any notable planning proposals within any of the route options that would present potential for constraint that could not be addressed through careful and considered siting and design. All routes have therefore been allocated a **Green** RAG rating for Planning Proposals.

6.3 Engineering Topic Areas

Infrastructure Crossings

Major Crossings

6.3.1 Major infrastructure crossings³⁰ can present many obstacles when designing and constructing an OHL and therefore, it is advantageous to avoid multiple crossings if possible. **Table 6.3** indicates the major crossings encountered on each of the route options studied.

6.3.2 All options require crossing both the double circuit Beauty-Denny 275 kV / 400 kV, 132 kV Glenmoriston and Ceannacroc – Fort Augustus OHLs and the single circuit 132 kV Fort Augustus – Skye Tee wood pole and cable route down into Fort Augustus Substation. It is noted that Route Option 1 and 1A are in close proximity to the existing Glenmoriston 132 kV single circuit route from the power station at Dundreggan Dam to the junction with the Ceannacroc OHL but it is likely a crossing of this line is avoidable.

6.3.3 The last 500 m (approximately) of each route option into Fort Augustus substation would be underground cable. As a result, all ‘above ground’ OHL to OHL crossings would be avoided; however, consideration of adequate clearance of OHLs will still be required.

6.3.4 All options cross the River Moriston; however, as this river is less than 200 m in width it is not considered to be a major crossing. No navigable canals, railways or gas / hydro pipelines were identified in the vicinity of any route options.

Table 6.3: Major Crossings

Major Crossing	Route Option 1	Route Option 1A	Route Option 2	Route Option 2A	Route Option 3
132 / 275 kV Overhead Line	3	3	3	3	3
Rail	n/a	n/a	n/a	n/a	n/a
River Crossings Greater than 200 m	n/a	n/a	n/a	n/a	n/a
Navigable Canal	n/a	n/a	n/a	n/a	n/a
Gas Pipeline	n/a	n/a	n/a	n/a	n/a
Hydro Pipeline	n/a	n/a	n/a	n/a	n/a

6.3.5 In accordance with SHE Transmission plc’s guidance all routes have been allocated a RAG rating of **Red** as each would require more than two major crossings.

Road Crossings

6.3.6 The fewest road crossings are found on Route Option 1A and 3 with only the A887 in Glen Moriston and the minor road to Auchteraw at the Fort Augustus substation. Another minor road from Torgyle bridge to Inverwick

³⁰ Major infrastructure crossings include high voltage transmission lines, rail lines, wide rivers (greater than 200 m), navigable canals, gas pipelines, and hydro pipelines.

is encountered on Route Option 1 with Route Option 2 and 2A encountering a minor road to Dalcataig as shown in **Table 6.4** below.

Table 6.4: Road Crossings

Road Crossing	Route Option 1	Route Option 1A	Route Option 2	Route Option 2A	Route Option 3
A-Road	1 (A887)	1 (A887)	1 (A887)	1 (A887)	1 (A887)
B-Road	n/a	n/a	n/a	n/a	n/a
Minor / Local Road	2	1	2	2	1

- 6.3.7 In accordance with SHE Transmission plc's guidance Route Option 1A and 3 have the least number of crossings and are classified as **Green**, and Route Options 1, 2 and 2A are classified as **Amber**.

Environmental Design

Elevation

- 6.3.8 The elevation on which an OHL is constructed can have a significant effect in terms of influencing both wind and ice loading. In order to limit the effects of wind and ice loading due to elevation, it is favourable to minimise the erection of overhead lines on lands above 200 m AOD.
- 6.3.9 Over 25 % of Route Option 1, 1A and 3 exceed 200 m AOD (approximately 48 %, 57 % and 75 %, respectively) and are therefore classified as **Red**. Route Option 2 and 2A exceed 200 m AOD between 10 % and 25 % of their length, and are assigned **Amber** RAG ratings. It is noted that alignments can be designed to avoid higher elevations with the routes, where terrain allows.

Pollution Areas

- 6.3.10 Based on publicly accessible information³¹, areas of high pollution are not found within the study area of any of the route options and so a **Green** RAG rating has been applied to all routes.

Flooding

- 6.3.11 There are three types of flooding which must be considered; Coastal, Surface and River. Potential for flood risk has been based on SEPA³² publicly available data, from which flooding within 1:200 and 1:10 year events is found to be less than 80 % of the option route lengths for less than 2 % of all the route options. The main potential impact on the routes are seen along River Moriston for Route Option 1, 1A, 2 and 2A. Flood risks are also present from the Allt Phocaichain and Loch Ness, and in the immediate vicinity of Fort Augustus substation; however, these are not considered to pose significant constraints to the route options.
- 6.3.12 Given the information available a RAG rating of **Green** has been applied for Route Option 1, 1A and 3, and **Amber** has been allocated to Route Option 2 and 2A for Flooding from an Engineering perspective.

Ground Conditions

Terrain

- 6.3.13 Unfavourable terrain can lead to many design and construction related challenges for new OHL builds. Steep slopes, mountainous terrain and / or cliffs create difficult obstacles for OHLs to cross and it is therefore

³¹ <https://uk-air.defra.gov.uk/interactive-map>

³² Scottish Environment Protection Agency

preferred to limit construction in this terrain where possible. Another consideration is pinch points and areas within the Corridor with limited options to achieve a potential route.

6.3.14 Constraints were analysed by deriving slope gradients from publicly accessible digital terrain model (DTM) datasets. In line with guidance, grades of over 40 % are considered an Amber constraint, while grades over 50 % are considered to be Red. Under these assumptions, Route Option 1, 1A and 3, while having isolated instances of over 50 % grades, are classified as **Green**. Route Option 2 and 2A are classified as **Red** due to the assumption that the steep slopes of Creag Bhalg and Bhan would need to be utilised due to the difficulties of constructing an OHL through the SSSI, River Moriston catchment and the village of Invermorison.

Peat

6.3.15 Construction in areas of peat can pose engineering challenges during both the design and construction stages of an OHL build. In addition, construction in peat can lead to increased construction and maintenance costs and therefore, should be reduced or avoided where possible.

6.3.16 Based on publicly accessible data, all route options have isolated, small, avoidable areas of peat which do not cover considerable widths for large distances and so have been given a RAG rating of **Green**. It is noted that peat deposits are hard to define, and detailed survey of the areas of peat will be required before design of alignments can commence.

Geology

6.3.17 Desk studies indicate that for most locations, ground bearing foundations will be sufficient for a new OHL, although there may be some modifications for groundwater or bands of weaker material. Where lacustrine deposits of alluvium are identified, this risk is elevated, and where peat is present some form of modification or special foundation may be required.

6.3.18 As all options encounter a similar geological profile, and **Amber** RAG rating has been applied to all route options.

Construction / Maintenance

6.3.19 Constructability is an important consideration for all OHL developments considering the wide-ranging terrain and multiple obstacles that are often encountered. Therefore, giving some forethought to access routes and the number of critical angle masts to be used on this OHL is important for the construction and future maintenance requirements of the line.

Access

6.3.20 Adequate access is an important consideration for both construction and maintenance activities. Positioning an OHL in close proximity to existing public roads and networks of tracks will provide ease of access and can greatly reduce costs associated with the construction stage.

6.3.21 Route Option 1, 1A and 2 are deemed to have a maintained existing network of tracks within 1 km of the routes and are thus given a RAG rating of **Green**. Route Option 2A, which heads east from the proposed Bhlairidh Extension Wind Farm on-site substation, is rated as **Amber** due to the unknown nature of the tracks in the area and the slopes down into Glenmoriston which are difficult to access. Route Option 3 is the least accessible and also classified as **Amber** as there are limited tracks to the higher ground of Burach and the majority of the route is over 1 km from the existing public road network.

Angle Towers

- 6.3.22 Angle towers are important components of an OHL as they are primarily used in 'stringing' operations and failure containment. Due to the nature of the angle towers, higher loads are required to be designed into the structures and larger foundations and more complex installations are often required.
- 6.3.23 Angle tower positions have been estimated based on the approximate centreline of each route option. Route Option 1A and 3 have the lowest number of deviations at 11 each. Route Option 1 has 12 deviations, Route Option 2A has 13, and Route Option 2 has the highest at 15. Angle positions will be subject to design decisions and will potentially increase in number, or reduce, accordingly.
- 6.3.24 In line with SSEN guidance, Route Option 1 and 3 have been assigned a **Green** RAG rating, while Route Option 1A, 2 and 2A have been assigned an **Amber** rating.

Proximity

- 6.3.25 The location of an OHL relative to structures and settlement of people is an important consideration when selecting a Preferred Route. OHLs must be an adequate distance from buildings in order to ensure electrical clearance limits are achieved, but also in order to reduce the impact on households of the construction of a piece of key infrastructure in their vicinity. From an operability and maintenance viewpoint, wind turbines near OHLs have been found to potentially increase the occurrence of conditions suitable for aeolian vibration leading to the premature wear of the conductor through fatigue. Potential structural failure of wind turbines leading to collapse onto an OHL is also a consideration.

Clearance Distance

- 6.3.26 Assessment of the route options was undertaken to determine the clearance distances available between buildings and dwellings.
- 6.3.27 Route Option 1, 1A and 3 have achievable clearances in excess of 250 m, with the only 'pinch-point' identified at Glenmoriston Power Station. This is considered to be avoidable, and so these route options have been assigned a **Green** RAG rating. Route Option 2 and 2A pass within close proximity to Invermoriston and isolated dwellings along the west bank of Loch Ness. The steep gradients along the slopes of Sròn na Muic may force an alignment to be within 100 – 250 m of these properties, and thus Route Option 2 and 2A have been assigned an **Amber** RAG rating.

Proximity to Windfarms

- 6.3.28 Due to the necessity of the grid connection, all route options are within 750 m of the Bhlaraidh Extension Wind Farm and thus are given a RAG rating of **Red**. Other than this, there are no wind farms within 1 km of any of the route options. It is noted that, dependent on the alignment chosen, it is feasible for the OHL to commence outside of the wind farm site to mitigate this proximity issue, making use of underground cable within the wind farm boundary; however, a connection to the on-site substation within the wind farm will still be required.

Urban Environments

- 6.3.29 All route options have less than 10 % presence within urban environments, and thus have all been assigned a **Green** RAG rating for this topic consideration.

6.4 Cost Topic Areas

- 6.4.1 Costs were not assessed in detail as part of this route selection process. These will be considered in more detail at the alignment stage when the technical and engineering specifications required become clearer.

Capital

- 6.4.2 The preferred technology solution is a new 132 kV single circuit OHL supported on a trident wood pole. From a capital cost perspective this option reduces costs when compared to other technologies. This is largely due to the reduced foundation and access requirements. However, all route options may require use of larger, more robust technologies on higher ground (over 300 m AOD) and underground cable would be utilised for all route options for the connection into Fort Augustus substation.
- 6.4.3 As such, all routes have been allocated an **Amber** RAG rating for Capital Costs.

Operational

- 6.4.4 Compared to other overhead line technologies a single circuit OHL supported on a trident wood pole is relatively straight forward technology to inspect and maintain. As noted previously, areas of higher elevation are likely to require more robust structures, which may entail higher operational costs, and underground cables entail higher maintenance costs than OHLs.
- 6.4.5 As such, all routes have been allocated an **Amber** RAG rating for Operational Costs.

6.5 Comparative Analysis Summary

- 6.5.1 **Table 6.5** below illustrates the environmental, engineering and cost appraisal RAG ratings for the route options considered. A summary RAG table is included in **Appendix 1**.
- 6.5.2 All route options would pass through the catchment area of the River Moriston SAC and SSSI for varying lengths, as well as areas of woodland designated as Ancient Woodland. Route Option 2 and 2A also intersect with the Levishie Wood SSSI, the latter in its entirety, and a GCR site, and these are the least preferred in terms of natural heritage designations.
- 6.5.3 Due to the presence of lochans on the higher ground associated with Route Option 3, it is considered that diver species may be present, and a higher RAG rating of **Red** has conservatively been applied, whereas other routes are very similar in terms of anticipated constraints.
- 6.5.4 The Levishie Cottage Fort SM is a key consideration as it presents a significant constraint to development for cultural heritage; its historic setting is closely associated with views through and down to the valley, through which Route Option 2A would pass. Route options 2A and 2 are less favourable for cultural heritage overall, while route Options 1 and 1A are preferred.
- 6.5.5 Invermoriston is a key pinch point in terms of proximity to dwellings, and it may prove difficult to observe suitable distances from all built properties here on balance with other environmental constraints.
- 6.5.6 Route Options 2 and 2A pass through the Loch Ness and Duntelchaig SLA, a regional landscape designation and key constraint from a Landscape and Visual perspective. The Great Glen Way and steep wooded slopes of the Great Glen are recognised in the 'Special Qualities' of this SLA and potential effects on these characteristics pose a particular constraint for Routes 2 and 2A. Other route options avoid potential effects on the Special Qualities of the SLA, but otherwise have moderate constraints to development from landscape character and visual amenity standpoints, with a slight preference for Route Option 1 and 1A, followed by 3.
- 6.5.7 Forestry is considered to be the final key environmental consideration for the route options, given its presence throughout all routes, including Ancient Woodland designations. Opportunities exist to minimise presence within the more sensitive areas, but it is unlikely that woodland could be avoided entirely for any route option. The Levishie Wood SSSI is also a key constraint for woodland. Route Option 3 has the least woodland cover and greatest opportunities to avoid the more sensitive woodland blocks. Combined with potential opportunities

to have the development coincide with planned felling by FLS, Route Option 3 represents the preferred option for forestry, followed by 1A then 1.

- 6.5.8 From an engineering perspective, factors such as road crossings, elevation, flooding, terrain, access and clearance distance were all important considerations in the selection of a Preferred Route.

Table 6.5: RAG Ratings

	Category	Sub-Topic	Route Option 1 Rating	Route Option 1A Rating	Route Option 2 Rating	Route Option 2A Rating	Route Option 3 Rating	
Environmental	Natural Heritage	Designations	Yellow	Yellow	Red	Red	Yellow	
		Protected Species	Yellow	Yellow	Yellow	Yellow	Yellow	
		Habitats	Yellow	Yellow	Yellow	Yellow	Yellow	
		Ornithology	Yellow	Yellow	Yellow	Yellow	Red	
		Geology, Hydrology and Hydrogeology	Yellow	Yellow	Yellow	Yellow	Yellow	
	Cultural Heritage	Designations	Green	Green	Yellow	Red	Yellow	
		Cultural Heritage Assets	Green	Green	Yellow	Yellow	Green	
	People	Proximity to Dwellings	Green	Green	Yellow	Yellow	Green	
	Landscape and Visual	Designations	Green	Green	Yellow	Yellow	Green	
		Character	Yellow	Yellow	Yellow	Yellow	Yellow	
		Visual	Yellow	Yellow	Red	Red	Yellow	
	Land Use	Agriculture	Green	Green	Green	Green	Green	
		Forestry	Yellow	Yellow	Yellow	Red	Yellow	
		Recreation	Green	Green	Yellow	Yellow	Green	
	Planning	Policy	Yellow	Yellow	Red	Red	Yellow	
		Proposals	Green	Green	Green	Green	Green	
	Engineering	Infrastructure Crossings	Major Crossings (132kV, 275kV, Rail, 200+m wide river, navigable canal, gas or hydro pipeline)	Red	Red	Red	Red	Red
			Road Crossings	Yellow	Green	Yellow	Yellow	Green
		Environmental Design	Elevation	Red	Red	Yellow	Yellow	Red
			Pollution Areas	Green	Green	Green	Green	Green
Flooding			Green	Green	Yellow	Yellow	Green	
Ground Conditions		Terrain	Green	Green	Red	Red	Green	
		Peat	Green	Green	Green	Green	Green	
Construction / Maintenance		Access	Green	Green	Green	Green	Yellow	
		Angle Towers	Yellow	Green	Yellow	Yellow	Green	
Proximity		Clearance	Green	Green	Yellow	Yellow	Green	
		Distance	Green	Green	Yellow	Yellow	Green	

	Category	Sub-Topic	Route Option 1 Rating	Route Option 1A Rating	Route Option 2 Rating	Route Option 2A Rating	Route Option 3 Rating
		Proximity to Windfarms	Red	Red	Red	Red	Red
		Urban Environments	Green	Green	Green	Green	Green
Cost	Capital	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Yellow	Yellow	Yellow	Yellow	Yellow
	Operational	Inspections and Maintenance	Yellow	Yellow	Yellow	Yellow	Yellow

6.6 Preferred Route

- 6.6.1 A Preferred Route has been identified following consideration of environmental, engineering and cost considerations.
- 6.6.2 Route Option 1, 1A and 3 all provide advantages over Route Option 2 and 2A and could each offer a viable route and solution for the project from an environmental perspective. However, on balance, it is considered that **Route Option 1A is the preferred option.**
- 6.6.3 From an environmental perspective, it is likely to result in reduced landscape and visual impacts in comparison with Route Option 3, avoids the SLA, Levishe Wood SSSI and the DWPA, and presents fewer concerns for cultural heritage. It offers greater opportunities to avoid more sensitive woodland areas and need for felling overall, although to a lesser degree than Route Option 3. Route Option 1A is considered to have reduced ornithology constraint than Route Option 3 and would require reduced access track construction given the good condition tracks running along the Beaully-Denny corridor.
- 6.6.4 From an engineering standpoint, Route Option 1A was considered the most favourable, on balance, in terms of road crossings, flooding, terrain, existing access and angle tower requirements, resulting the greatest number of Green RAG ratings and fewest Amber ratings. All route options have the same number of Red RAG ratings in engineering terms.
- 6.6.5 All route options are considered to be comparable in cost terms; all would use the favoured technology option of a single circuit OHL supported by trident wood poles where possible, which has the lowest associated capital and operational costs, however all options may require use of larger, more robust structures on higher ground which would entail greater costs. The final 500 m (approximately) of connection into Fort Augustus substation would be underground cable, which again would entail greater capital and operational costs.
- 6.6.6 The Preferred Route is shown on **Figure 12.**
- 6.6.7 The Preferred Route would require careful consideration during the alignment selection stage of the project to achieve an acceptable alignment with minimal environmental effects. Should further site and desk-based

analysis at the alignment selection stage identify a particular constraint, a further review of route or alignment options may be required prior to the identification of a Preferred Alignment.

7. BIODIVERSITY NET GAIN

7.1 Background

- 7.1.1 Biodiversity Net Gain (BNG) is a process which leaves nature in a better state than it started. Although it is an internationally recognised process and tool within the development industry, it is not a term that is widely used or implemented in Scotland³³. A small handful of businesses are making voluntary commitments to incorporating BNG into their projects, including SHE Transmission plc.
- 7.1.2 SHE Transmission plc has developed a BNG toolkit based upon the accepted Department for Environment, Food and Rural Affairs (Defra) metric^{34, 35, 36} which aims to quantify biodiversity based upon the value of habitats for nature. It is an efficient and effective method for demonstrating whether development projects have been able to maintain or increase the biodiversity value of a development site after construction works.
- 7.1.3 For BNG to be used appropriately and to generate long-term gains for nature, the good practice principles established by the Business and Biodiversity Offset Programme (BBOP)³⁷ should be followed. These principles have been established in the context of UK development by the Construction Industry Research and Information Association (CIRIA), the Chartered Institute for Ecology and Environmental Management (CIEEM) and the Institute of Environmental Management and Assessment (IEMA)⁶.
- 7.1.4 BNG does not apply to statutory designated sites or irreplaceable habitats (e.g. blanket bog, Ancient Woodland)³⁸.

7.2 SHE Transmission plc's Biodiversity Ambition

- 7.2.1 SHE Transmission plc is committed to protecting and enhancing the environment by minimising the potential impacts from their construction and operational activities. As part of this approach, SHE Transmission plc has made commitments within its Sustainability Strategy (2018)³⁹ and Sustainability Plan (2019)⁴⁰ for new infrastructure projects 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 UN and Scottish Government Biodiversity strategies by achieving an overall 'No Net Loss' on new infrastructure projects gaining planning consent in 2020 onwards and achieving Net Gain on projects gaining consent in 2025 onwards; and
 - work with their supply chain to gain the maximum benefit during asset replacement and upgrades.
- 7.2.2 The targets for upgrade, maintenance and operational activities are:

³³ CIEEM. 2019. Biodiversity Net Gain in Scotland. CIEEM Scotland Policy Group. <https://cieem.net/wp-content/uploads/2019/06/Biodiversity-Net-Gain-in-Scotland-CIEEM-Scotland-Policy-Group.pdf>

³⁴ Biodiversity Offsetting Pilots (2012) Technical Paper: the metric for the biodiversity offsetting pilot in England https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69531/pb13745-bio-technical-paper.pdf

³⁵ Biodiversity Offsetting Pilots (2012) Guidance for developers https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69528/pb13743-bio-guide-developers.pdf

³⁶ Biodiversity Offsetting Pilots (2012) Guidance for offset providers https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69530/pb13742-bio-guide-offset-providers.pdf

³⁷ Guidance Notes to the Standard on Biodiversity Offsets (2012). Business and Biodiversity Offsets Programme (BBOP). https://www.forest-trends.org/wp-content/uploads/imported/BBOP_Standard_Guidance_Notes_20_Mar_2012_Final_WEB.pdf

³⁸ CIRIA, CIEEM, IEMA (2019). Biodiversity Net Gain: Good practice principles for development, A Practical Guide. <https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

³⁹ Delivering a smart, sustainable energy future: The Scottish Hydro Electric Transmission Sustainability Strategy (2018) <https://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf>

⁴⁰ Our Sustainability Plan: Turning Ambition into Action. (2019) SHE Transmission. <https://www.ssen-transmission.co.uk/media/3215/our-sustainability-plan-consultation-report.pdf>

- Collaborate with partners to realise opportunities for improving the biodiversity on and around their existing sites; and
- enhance biodiversity through a comprehensive review of management activities.

7.3 Route Optioneering BNG Assessment

- 7.3.1 A Route Optioneering BNG assessment has been carried out for the grid connection, establishing the habitats present within each Route Option through a combination of initial walkover survey findings and desk-based survey making use of the Habitat Map of Scotland (HabMos) and aerial imagery provided by Ordnance Survey. Limitations to the assessment at this stage include conflicting datasets and the accuracy of the data available for habitat polygons as full walkover surveys have not yet been carried out due to the large areas covered by the route options.
- 7.3.2 The baseline biodiversity for each Route Option was established and the Biodiversity Units (BU) for each route calculated. A BU per hectare (Ha) rating was also defined for each Route Option to allow for ease of comparison.
- 7.3.3 The BNG assessment concludes that Route Option 1 contains the highest number of BU, while Route Option 3 contains the highest BU / Ha. There is limited variation between the BU / Ha between each route option, which reflects the degree of overlap between routes but also that the significance of each figure is likely to be small due to the assumptions and limitations identified.
- 7.3.4 Irreplaceable habitats present within the route options include Ancient Woodland (semi-natural coniferous and broadleaved woodland of ancient origin) and areas of blanket bog. Route Option 1 and 1A contain large amounts of semi-natural coniferous woodland which is unlikely to be avoidable. Route Option 3 has the greatest presence of blanket bog, but its fragmented nature means avoidance should be possible.
- 7.3.5 The outcomes of the BNG assessment include recommendations to meet No Net Loss (NNL), including that route selection should aim to avoid irreplaceable habitats, and minimise impact on habitats of high biodiversity status, such as the upland heathland and grassland habitats present within the route options. A Habitat Management Plan (HMP) to replace habitats impacted with habitats of similar biodiversity value would be required for the project to meet NNL.
- 7.3.6 At alignment selection stage, a full BNG Assessment will be undertaken based on datasets collected from comprehensive field surveys. Options to minimise impacts during construction and maximise the potential of habitats created through implementation of a HMP will be considered at alignment selection stage.

8. CONSULTATION ON THE PROPOSALS

8.1.1 SHE Transmission plc places great importance on, and is committed to, consultation and engagement with all parties, or stakeholders, likely to have an interest in proposals for new projects such as this. Stakeholder consultation and engagement is an essential part of an effective development process.

8.2 Questions for Consideration by Consultees

8.2.1 When providing your comments and feedback, SHE Transmission plc would be grateful for your consideration of the questions below:

- Have we explained the need for this Project adequately?
- Have we explained the approach taken to select the Preferred Route adequately?
- Are there any factors, or environmental features, that you consider may have been overlooked during the preferred route selection process?
- Do you feel, on balance, that the Preferred Route selected is the most appropriate for further consideration at the alignment selection stage?

8.3 Next Steps

8.3.1 Virtual online consultation events will be held, as detailed in the preface of this document. The responses received from these consultation events, and those sought from statutory consultees and other key stakeholders, will inform further consideration of the route options put forward, and the identification of a Preferred Route to take forward to the next stage in the routeing process (alignment selection).

8.3.2 All comments are requested by 11th December 2020. A Report on Consultation will be produced which will document the consultations received, and the decisions made in light of these responses.

8.3.3 Following the identification and confirmation of a Proposed Route, further technical and environmental surveys (e.g. Phase 1 Habitat / NVC surveys, Protected Species Surveys and further input by landscape, ecology, cultural heritage, hydrology and forestry specialists) would be undertaken to identify a Preferred Alignment. Consultation on a preferred alignment will be undertaken in a similar manner to the identification of a Preferred Route in Spring 2021.