

**Spittal to Loch Buidhe to Beauly 400  
kV OHL Connection  
Environmental Impact Assessment  
Volume 5, Appendix 13.1 – Q:  
Woodland Reports  
Invershin**

**July 2025**



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## 1. Introduction

- 1.1 Scottish and Southern Electricity Networks (SSEN) Transmission, hereafter referred to as ‘the Applicant’, owns, operates, develops and maintains the high voltage electricity transmission system in the north of Scotland and the Scottish islands. Due to the growth in renewable electricity generation in the north and north-east of Scotland, upgrade of the transmission network is required to provide the necessary increase in transmission capacity. The Applicant is applying for consent under Section 37 of the Electricity Act 1989 to construct and operate a new double circuit 400 (kilovolt) kV overhead line (OHL).
- 1.2 This report provides an assessment of woodland impact related to the Spittal to Loch Buidhe to Beaulieu 400 kV OHL Connection project (the ‘Proposed Development’). The report details the woodland area affected by the Operational Corridor (OC), new access tracks (permanent), and additional felling required due to windblow risk within individual ownerships. It also includes mitigation considerations and compensatory planting recommendations.

## 2. Purpose of this Woodland Report

- 2.1 As part of the Environmental Impact Assessment (EIA) process, it was identified that construction of the OHL and associated access tracks would cross a number of woodland areas within both public and private landholdings. The landholding property boundaries are identified in **Figure 1: Woodland Impacted by the Proposed Development**.
- 2.2 This document provides an assessment of the woodland areas that are affected by the Proposed Development, including the requirement for woodland removal and management recommendations to mitigate the impact of the woodland removal.
- 2.3 Field surveys of the woodland areas have been undertaken and have been used to determine the various woodland characteristics to identify the woodland removal required and recommended. This document also sets out the area, in hectares (ha), of compensatory planting required to ensure no net loss of woodland is achieved.

## 3. Woodland Property

- 3.1 Invershin is a privately owned woodland situated approximately 1.5 km south of the Inveran Power Station and 6 km north of Bonar Bridge. The nearest public road is the A836, crossing the north side of the property, reaching the northern section of the Proposed Development. Refer to **Figure 1: Woodland Impacted by the Proposed Development**.
- 3.2 The property is located at NH 57505 96348, between the Kyle of Sutherland estuary and the Invershin railway. Only two Towers, S22 and S23 are located within this ownership, and none are impacted by woodlands, as shown on **Figure 1: Woodland Impacted by the Proposed Development**.

3.3 The woodland area in Invershin is limited to both sides of the A836 road, and a small section extending into the wooded knoll surrounding the remnants of Invershin Castle.

## 4. Development Requirements

### 4.1 400 kV Operational Corridor

- 4.1.1 With reference to **Figure 1: Woodland Impacted by the Proposed Development**, the sections of Overhead Line (OHL) applicable to the Invershin are 150 m northwest of Tower S22 to over 350 m southwest of Tower S23.
- 4.1.2 The Study Area for this assessment is based around an OC of 90 m. The Applicant defines the OC as the area in which it has rights to remove woodland for the purposes of creation of new OHL, resilience and maintenance of OHLs, or protection of electrical plant as required by the Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002 regulations and The Electricity Act 1989. The OC is defined as to the distance at which a tree could fall and cause damage to the OHL, resulting in a supply outage. As a result, the final OC width would be based on the safety distance required from the OHL centreline to allow for a mature tree falling towards the OHL, taking account of topography and tree height at maturity.
- 4.1.3 The OC width that has been assessed and identified for the safe build and energisation of the new OHL through areas of conifer woodland is 90 m (45 m either side of the OHL centreline). Further details can be found in **Section 13.3 of Volume 2, Chapter 13: Forestry** which outlines the extent of the study area.
- 4.1.4 The OC width that has been assessed and identified for the safe build and energisation of the OHL through the areas of broadleaves is also 90 m (45 m either side of the OHL centreline). This has been assessed as a maximum OC width required at these woodland locations, with the potential of further narrowing of the OC prior to construction to allow greater tree retention depending on factors such as tree height, topography, crown reduction or other mitigation strategies<sup>1</sup>.
- 4.1.5 Within Invershin, a special arrangement feature has been implemented to facilitate the safe and efficient crossing of two overhead lines: the existing 132 kV double circuit line and the Proposed Development. This feature is designed to manage the intersection of these lines while minimising operational and environmental impacts during construction and ongoing maintenance.

### 4.2 Access Track Route Design

- 4.2.1 The nearest public road is the A836, reaching the northern section of the property, intersected by the OC. Sections of permanent road will be constructed, within and

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<sup>1</sup>As specified by the 'Red Zone' set out in paragraph 41 of the Forest Industry Safety Accord. (2020) Safety Guide 804 Electricity at Work: Forestry. [pdf] Available at: FISA 804 (ukfisa.com).

outside the OC. These roads will form part of the main vehicle access route for the Proposed Development, and it can be seen on **Figure 1: Woodland Impacted by the Proposed Development**, and will be subject to maintenance and upgrade works as part of the construction work scope.

- 4.2.2 Sections of new access track seen in **Figure 1: Woodland Impacted by the Proposed Development**, are required to be built as part of the construction work scope, to service the Towers S22 to S23.
- 4.2.3 The access track corridor width required for clearing through the woodland is 20 m (10 m on either side of the centreline), but this will be evaluated in situ to determine the suitability for further tree retention.
- 4.2.4 The construction of these new access tracks will slightly increase the impact of woodland removal along routes located outside the OC. The affected woodland along the new roadway will consist of a similar composition to that found within the OC, featuring a combination of broadleaved woodlands. Refer to **Table 9.1** below.
- 4.2.5 Tree felling, stump removal and residue mulching will be required for the installation of new access tracks and at each tower location for the formation of temporary construction working areas.
- 4.2.6 These roads can serve as the main arterial construction route. Tree felling and timber extraction would be able to utilise existing tracks, prior to any construction activity.
- 4.2.7 Where existing tracks require maintenance or upgrading, this may involve the removal of trees and scrub to facilitate the works, particularly to accommodate the creation of additional passing places. While much of the upgrade activity would fall within standard forest access maintenance, which typically involves the removal of scrub, regeneration, and crown management, some sections may require additional tree clearance within a corridor of up to 12 m in width.

## 5 Woodland Characteristics

- 5.1 A desk-based study of the woodland areas was conducted, to identify current woodland environmental designations and classifications.
- 5.2 The web-based data provided by Scottish Forestry and referencing the Scottish Government's Ancient Woodland Inventory (AWI), and

- The Scottish Forestry Map Viewer provides spatial data on the Native Woodland Survey of Scotland (NWSS) and classifies the woodland types into four categories<sup>2 3</sup>:

1. Native woodland
2. Nearly-native woodland
3. Open land habitat
4. Plantations on Ancient Woodland Sites (PAWS)

5.3 The woodlands within the Proposed Development in Invershin are located in two separate areas. One consists of broadleaved woodland on either side of the A836 public road, extending northeast to the railway boundary. The other is a broadleaved woodland surrounding the remains of Invershin Castle.

5.4 Within this landscape, the Proposed Development primarily passes through semi-mature to mature broadleaved woodland, some of which hold woodland designated classifications. The overall topography is relatively flat, with an elevation of just above 10 m above sea level. However, there is a gentle slope leading up to the railway and an elevated knoll within the Invershin Castle ruins.

5.5 A portion of the woodland within the Operational Corridor, corresponding to the Invershin Castle ruins, is designated as an Ancient Woodland Site of Semi-Natural Origin (AWSNO) (2a) under the Ancient Woodland Inventory (AWI). Additionally, the broadleaved woodland northeast of the public road, extending toward the railway, is classified as Native Woodland - Upland Birchwood - under the NWSS. Refer to **Table 5.1**.

**Table 5.1: Woodland Designations**

Item	Type of Impact	Woodland Designations	Area (ha)
Operational corridor	Permanent	AWI- AWSNO 2a	0.11
		NWSS- Native woodland	0.68
Access track corridor	Permanent	NWSS- Native woodland	0.23

<sup>2</sup> Scottish Forestry Map Viewer URL

<https://scottishforestry.maps.arcgis.com/apps/webappviewer/index.html?id=0d6125cfe892439ab0e5d0b74d9acc18>

<sup>3</sup> Scottish Forestry Native Woodland Survey of Scotland: Glossary of Terms; URL: Main Title (forestry.gov.scot)

Native Woodland – woods where the canopy cover is composed mainly of native species (i.e., over 50%).

Nearly Native Woodland - where native species make up between 40% and 50% of the canopy. These are woods that could have potential to be converted into native woodlands by altering their species mix.

Open Land Habitat – areas with <20% canopy cover of trees and shrubs adjoining a native woodland.

PAWS - Plantation on Ancient Woodland Sites. These are surveyed in the NWSS where they are recorded in the Scottish ancient woodland inventory (SAWI). These woodlands appear to have originated through natural regeneration sometime before the mid-19th century, but were later converted to planted wood.

5.6 The woodland area corresponding to AWSNO classification of 0.11 ha presents semi-mature to mature non-native sycamore, beech and Norway maple species of average 26 m tall. Some evident broken limbs are found lying on the ground. Despite this woodland classification within the AWI, non-native trees are present on the Ancient Woodland Site. Refer to **Plates 1 and 2**.



Plate 1- Ancient Woodland of Semi-Natural Origin (2a. 1860). Broadleaved woodland composed by sycamore and beech trees of biological maturity on the knoll of the remains of Invershin Castle. Grid ref: NH 57311 96313.



Plate 2- AWSNO (2a) woodland with an open upper canopy dominated by beech trees on the back of the knoll, where regular flooding occurs during the winter months. No

understorey development or natural regeneration observed. Grid reference: NH 57242 96325.

5.7 A broader view across the Kyle of Sutherland reveals Invershin, with broadleaved woodland covering the lower ground and commercial conifer plantations occupying the upper slopes under neighbouring ownership.. Refer to **Plate 3**

5.8 The Native Woodland (0.93 ha) site, classified as Upland Birchwood, located east of the A836 public road, is primarily composed of semi-mature birch trees with a relatively closed upper canopy. The site consists of pole-stage to semi-mature native upland birchwood with varying canopy cover showing coppice regeneration. Occasionally, Scots pine trees can be observed within this birchwood as well as scattered holly and rowan trees. Refer to **Plates 4 and 5**.



Plate 3- Photograph taken from across the Kyle of Sutherland estuary showing the lower ground of Invershin property with Balblair commercial woodland in the background at higher altitude. Grid reference taken from: NH 56810 95878.



Plate 4- Native Woodland -Upland birchwood- regrowth from coppice of trees averaging 6 m in height and with semi-close upper canopy. Grid reference: NH 57797 96398.



Plate 5- Native Woodland of pole-stage birch trees reaching 11 m height on average. Grid reference: NH 57802 96446.

5.9 The remaining woodlands within the Proposed Development, which are not classified or designated, consist of a birchwood strip along the public road. These woodlands share similar characteristics with the trees within the Native Woodland on the opposite side of the road.

5.10 The site soils are predominantly Humus-iron podzols with alluvial soils.<sup>4</sup>

## 6. Windblow Risk Impact

6.1 An assessment was undertaken of the risk of windblow to areas of woodland adjacent to the OC which would be exposed due to the tree clearance required for the OC. This assessment was based on the professional judgement of the forestry surveyor with consideration being given to the soil and moisture regime, the topography, tree species, top height, exposure, altitude and aspect in relation to the prevailing wind direction and any previous management regimes. This assessment was also based on site visits and observations, and available data of the site. Reference was also made to Forest GALES 2.5 Forest Research decision support system where appropriate.

6.2 Given the nature of these broadleaved woodlands present on this site along with the local soils, topography and aspect, it is anticipated that the introduction of the OC will not result in future windblow to the adjoining woods.

6.3 Within the special arrangement area, a small cluster of trackside conifer trees, primarily spruce, is present. These trees have an average height of approximately 12 m.

6.4 The woodland site affected by the Proposed Development has a ‘Detailed Aspect Method of Scoring’ (DAMS)<sup>5</sup> windthrow hazard class score of 11, classified as low. The site presents mineral soils with shallow rooting that are mostly cool and moist.

## 7. Woodland Management Impact

7.1 The OHL will create additional challenges for the future management of the forest as it dissects existing management coupes and introduces an electrical hazard. The risks associated with the electrical hazard will be reduced by regular maintenance of the OC, so maintaining the compliance of the OC and reducing any need for future tree clearance operations within the “Red Zone”.<sup>6</sup>

7.2 While the OC will result in the sterilisation of some woodland areas, this is not expected to impact forest restructuring. This is due to the fact that native woodlands are generally not subject to commercial management. Opportunities for mitigation and woodland enhancement are outlined in **Section 8**.

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<sup>4</sup> Scottish Government’s Scotland’s soils website <https://soils.environment.gov.scot>

<sup>5</sup> Detailed Aspect method of Scoring (DAMS) Ref. Forest Research, “Forest Gales software programme” and Forestry Commission Leaflet 85 “Windthrow Hazard Classification”

<sup>6</sup> As specified by the ‘Red Zone’ set out in paragraph 41 of the Forest Industry Safety Accord (FISA) Safety Guide 804. Electricity at Work: Forestry (2020) FISA 804 ([ukfisa.com](http://ukfisa.com))

- 7.3 The OHL will cross the woodland road network at either approximately 45 or 90 degrees and will be built to the regulatory safe height clearances above forest access tracks, which will reduce the hazard in respect of future timber haulage. It may still, however, impact on machine operations within the proximity of the OHL, such as stacking and loading. Mitigation of which could be incorporated into the access design, following discussions with the landowner.
- 7.4 The OHL may be restrictive to future in-forest machinery access. The requirement for dedicated forestry machine OHL crossing points will be discussed with the landowner and if required, will be identified once the OHL has been constructed, thus providing a safe OHL crossing point(s) for future working within the woodland.
- 7.5 The impact of the Proposed Development on the overall viability and continuity of woodland management has been assessed. The woodlands within Invershin are primarily composed of native broadleaved species at varying stages of maturity, which typically require minimal active management. The OC will intersect only one woodland block, passing through its central section along the main public road. This limited incursion is not expected to significantly impact woodland management activities. Although there is some potential for minor fragmentation, this can be effectively mitigated through the measures outlined in Section 8.
- 7.6 The impacts arising from the Proposed Development are not anticipated to affect the wider woodland management regime, nor are they expected to necessitate any alteration to the current or planned species composition.

## 8. Mitigation Opportunities

- 8.1 Mitigation to reduce the extent of tree felling within the OC will be considered and incorporated in areas of broadleaved woodlands as part of the Proposed Development. Refer to **Section 13.5.3** Good practice and **Section 13.7.1** Mitigation within **Volume 2, Chapter 13. Forestry**. This affects all the woodlands within Invershin, with particular emphasis on those classified under AWSNO, which the OC briefly intersects. The Applicant will be using a process of ‘managed resilience’ which will seek to retain naturally regenerated broadleaved trees and shrubs as close as possible to the line to keep as much tree cover as possible. Smaller and lower growing tree species and shrubs can be retained closer to the OHL. OHL vegetation maintenance would take place on a 4-yearly cycle as required.
- 8.2 Impacts on woodland restock opportunities, resulting from the OC sterilisation, could be addressed through the amendment of the Felling Licence Application or the Long-Term Forest Plan (LTFP), adhered to the regulations of the Forestry and Land Management (Scotland) Act 2018, and in

line with the UK Forestry Standard guidance to utilise wayleave corridors as designed Open Ground, repurposing currently unplanted areas to maintain the commercial productivity of the woodland.

8.3 Before the construction phase, these areas, along with access tracks, will be assessed for selective felling and also crown reduction to determine if greater tree retention is feasible. The final extent of tree retention will depend on the requirements of the Proposed Development, particularly ensuring the safety of OHL wiring operations during construction.

8.4 The OC woodland removal area is required for the construction and operation of the new OHL infrastructure. Opportunities will be assessed for encouraging woodland regeneration within the OC, the identification of suitable areas cannot be guaranteed due to the requirement of maintaining the safe energisation of the OHL. Reference to **Tables 9.2 and 9.3** below, will fully mitigate the loss of forest resource within the OC through compensatory planting of the equivalent area (ha) of woodland removed.

8.5 Impacts on tree windfirm stability within the remaining crop have been assessed and considered as noted in **Section 6**. Woodland loss and management felling have been minimised through retention of crops identified as likely to be windfirm.

8.6 The impact of stability within the remaining crop has been assessed and reported on above.

## 9. Woodland Removal Impact

**Table 9.1: Woodland Removal for Infrastructure**

Item	Type of Infrastructure	Woodland type	Area (ha)
Operational corridor	Permanent	Broadleaved woodland	1.08
Access track corridor	Permanent	Broadleaved woodland	0.23
Special Arrangements	Permanent	Conifer woodland	0.02

**Table 9.2: Compensatory planting**

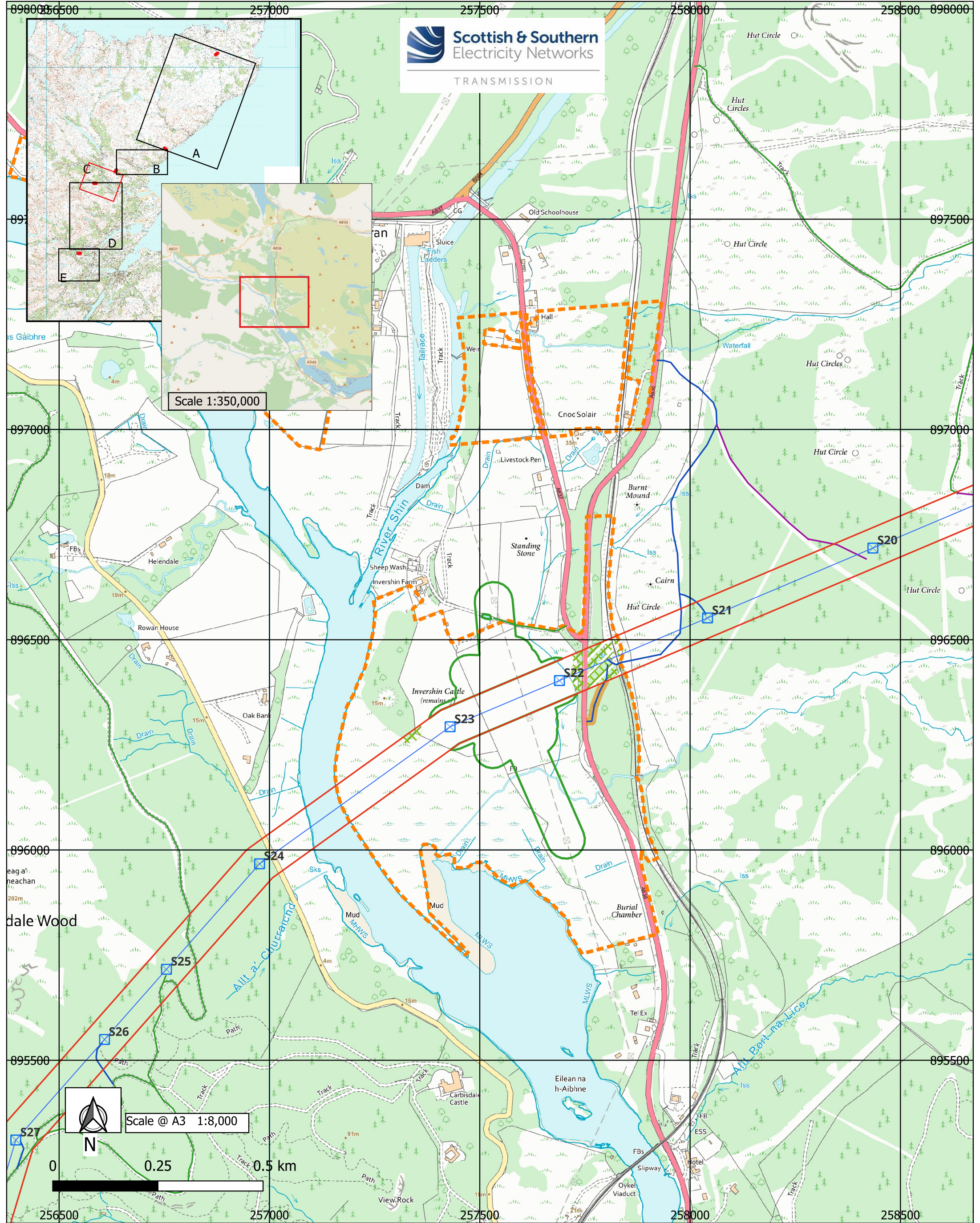
Compensatory Planting Area		1.33
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**Table 9.3: Woodland Removal Impact of Infrastructure**

Item	Woodland type	Area (ha)
Total Loss of Woodland Area	Broadleaved woodland	1.31
	Conifer woodland	0.02
Total Compensatory Planting Area off-site	Broadleaved woodland	1.31
	Conifer woodland	0.02
Total Restocking/ Replanting Area on-site		0
<b>Total Net Loss of Woodland Area</b>		<b>0</b>

## 10. Compensatory Planting

10.1 Compensatory planting to achieve the area quantity (ha) of woodland removal as a result of the Proposed Development will be in accordance with the Scottish Government's Control of Woodland Removal Policy of no net loss of woodland. A compensatory planting strategy is set out in **Volume 5, Appendix 13.3: Compensatory Planting Strategy**.



**Legend**

Landownership boundary/parcel	Special arrangements buffer 90m	Access Tracks- New Stone Temp
Operational Corridor	Broadleaved woodland- Operational Corridor 90m	Conifer woodland- Operational Corridor 90m
Central line Operational Corridor	Access Tracks- Existing Upgrade	
Proposed 400kV OHL Towers	Access Tracks- New Stone Perm	
20m Access Corridor		

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Woodland report  
Project No- LT000132  
Spittal- Loch Buidhe - Beaully 400kV Connection  
Figure 1. Woodland Impacted by the Proposed Development  
Section C-Invershin

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