

**Spittal to Loch Buidhe to Beauly 400
kV OHL Connection
Environmental Impact Assessment
Volume 5, Appendix 13.1 – F:
Woodland Reports
Glen Loth Parcel 1072**

July 2025



Contents

1. Introduction	2
2. Purpose of this Woodland Report	2
3. Woodland Property	2
4. Development Requirements	3
4.1 400 kV Operational Corridor	3
4.2 Access Track Route Design	4
5. Woodland Characteristics	4
6. Windblow Risk Impact	9
7. Woodland Management Impact	9
8. Mitigation Opportunities	10
9. Woodland Removal Impact	11
10. Compensatory Planting	12

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 Beaully 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 Parcel 1072 is privately owned and located approximately 13 km south of Helmsdale village. The woodlands within this property affected by the Proposed Development can be accessed via a minor unclassified road branching off the A9 at Lothbeg, located along the Loth Burn. This road follows Glen Loth towards the Strath of Kildonan.
- 3.2 These woodlands are primarily situated on open hillside, on the eastern side of the road, intersecting the Loth Burn and extending on both sides of it within the property. The areas affected by the Proposed Development face south, positioned on the gentle slopes of the glen.

3.3 There is no existing infrastructure providing access to the woodland areas within the Operational Corridor from the public minor road. As a result, new access tracks will need to be constructed to support the construction and operational phases of the project. Refer to **Figure 1: Woodland Impacted by the Proposed Development**.

4. Development Requirements

4.1 400 kV Operational Corridor

- 4.1.1 With reference to **Figure 1: Woodland Impacted by the Proposed Development**, the Overhead Line (OHL) sections relevant to Parcel 1072 extend from 165 m north to Tower N172 to over 150 m south of Tower N182.
- 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 strategies¹.

¹As 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).

4.2 Access Track Route Design

- 4.2.1 With no existing access tracks to the areas encountered within the Proposed Development, new sections of both permanent and temporary roads will be constructed within and outside the OC. These roads will serve as the primary vehicle access route for the Proposed Development, as illustrated in **Figure 1: Woodland Impacted by the Proposed Development**, and will undergo maintenance and upgrades as part of the construction scope.
- 4.2.2 New access tracks, also detailed in **Figure 1: Woodland Impacted by the Proposed Development**, will be built to service Towers N172 to N182.
- 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 roadways will consist of a similar composition to that found within the OC, featuring a combination of conifer and broadleaved mix plantation. 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 will serve as the main arterial construction route. Tree felling and timber extraction will 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

- 5.1A desk-based study of the woodland areas was conducted, to identify current woodland environmental designations and classifications.
- 5.2The 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^{2 3}:

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

5.3 The woodlands affected by the Proposed Development within this property are situated on a gentle slope at the foothills of Beinn Mhealaich, ranging in elevation from 180 m to 280 m above sea level.

5.4 The route primarily traverses young, pole immature planted mixed woodlands of conifer and broadleaved species within the OC.

5.5 A small area of broadleaved woodland, 0.23 ha, located immediately east of the Loth Burn along its shore, is classified as an Ancient Woodland Site of Semi-Natural Origin (AWSNO) (2a) according to the Ancient Woodland Inventory (AWI). Refer to **Table 5.1** and **Plate 1**.

5.6 This same AWSNO (2a) area, 0.23ha, is also classified as Native Woodland under the Native Woodland Survey of Scotland (NWSS), as Upland Birchwood.

Table 5.1: Woodland Designations

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

² Scottish Forestry Map Viewer URL

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

³ 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.



Plate 1- The AWSNO (2a) and Native Woodland site area features mature birch trees on both sides of the Loth Burn. Some trees show signs of decay, with broken limbs and scattered woody debris on the ground. The site exhibits evidence of overgrazing, and no natural regeneration has been observed within the Ancient Woodland. Grid reference: NC 93491 13506.

5.7 The AWSNO/Native Woodland site woodland is dominated by biologically mature birch trees, with occasional willow present. The average height of the birch trees is approximately 4 m. Refer to **Plates 2 and 3**.



Plate 2- AWSNO/Native Woodland area along the edge of the Loth Burn, featuring birch trees with an overgrazed understorey dominated by mosses and lichens. No evident signs of natural regeneration are present. The average tree height is 4 m. Grid reference: NC 93510 13527.



Plate 3- Birch trees at the end of the designated site area AWSNO and Native Woodland, where only a few are present on the eastern side of Loth Burn. Smaller trees averaging 4 m in height and with scattered gorse regeneration on the edges of the watercourse. Grid reference: NC 93520 13558.

5.8 Within the Operational Corridor, the remaining woodlands consist of a mix of conifer and broadleaved plantations, with both elements represented in the areas affected by the Proposed Development. Refer to **Plate 4**.

5.9 These woodlands were established under the RDC Woodland Creation Scheme between 2007 and 2013, which aimed to create a native woodland. The plantation consists of a mixture of conifer and broadleaved species, primarily birch for the broadleaved component and Scots pine for the conifer element. Refer to **Plate 5**.

5.10 The trees within these woodlands are at a young pole-immature stage, with both pine and birch species averaging approximately 3 m in height.

5.11 This scheme is prominently featured along Glen Loth on both sides of the main watercourse, Loth Burn, contributing to the overall landscape of the glen.

5.12 A ring fence was installed to protect the trees from deer browsing prior to the planting activities.

5.13 The site soils are predominantly Brown earths.⁴

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



Plate 4- Mix woodland of native species of broadleaved and conifer trees in a mix coupe structure along the lower ground in the Glen Loth, along and at either side of the Loth Burn watercourse. Photograph looking at grid reference: NC 93701 1389.



Plate 5- Conifer and broadleaved plantations established under the RDC Scheme are visible on the lower foothills of Beinn Mhealaich hill. The landscape features pole-immature Scots pine blocks interspersed with blocks of broadleaved trees, primarily consisting of young birch species throughout the woodland and protected from deer browsing by a ring fence. Grid reference: NC 93646 13793.

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 some of the woodlands, young broadleaved and conifer woodlands, along with the local characteristic of 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 The woodland site affected by the Proposed Development has a ‘Detailed Aspect Method of Scoring’ (DAMS)⁵ windthrow hazard class score of 12, classified as low to moderately exposed. The site presents mineral soils with shallow rooting that are mostly cool and moist.
- 6.4 All woodlands affected by the Proposed Development are believed to remain wind-stable. These rather open coupes have been assessed and are therefore considered stable in the current conditions.

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”.⁶
- 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**.
- 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.

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

⁶ 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)

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 considered. The woodland comprises a recently established native planting scheme with limited commercial value, alongside a Scots pine plantation expected to produce only low-quality timber. As the woodland is in the completion of establishment phase, current management needs are minimal. However, the Proposed Development will improve future management opportunities by introducing new access tracks. These will provide better access to woodland areas on both sides of the main watercourse, Loth Burn, supporting more effective forestry operations as the woodland matures. Consequently, no significant fragmentation or isolation of woodland units is anticipated, and the Proposed Development is not considered to materially affect the viability of the current or future management regime.

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 proposal. This would specifically apply to the Ancient Woodland site. 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**.

8.6 The impact of stability within the remaining crop has been assessed and reported as likely to be windfirm.

9 Woodland Removal Impact

Table 9.1: Woodland Removal for Infrastructure			
Item	Type of Infrastructure	Woodland type	Area (ha)
Operational corridor	Permanent	Conifer woodland	5.95
		Broadleaved woodland	6.48
Access track corridor	Temporary	Conifer woodland	0.68
		Broadleaved woodland	0.68

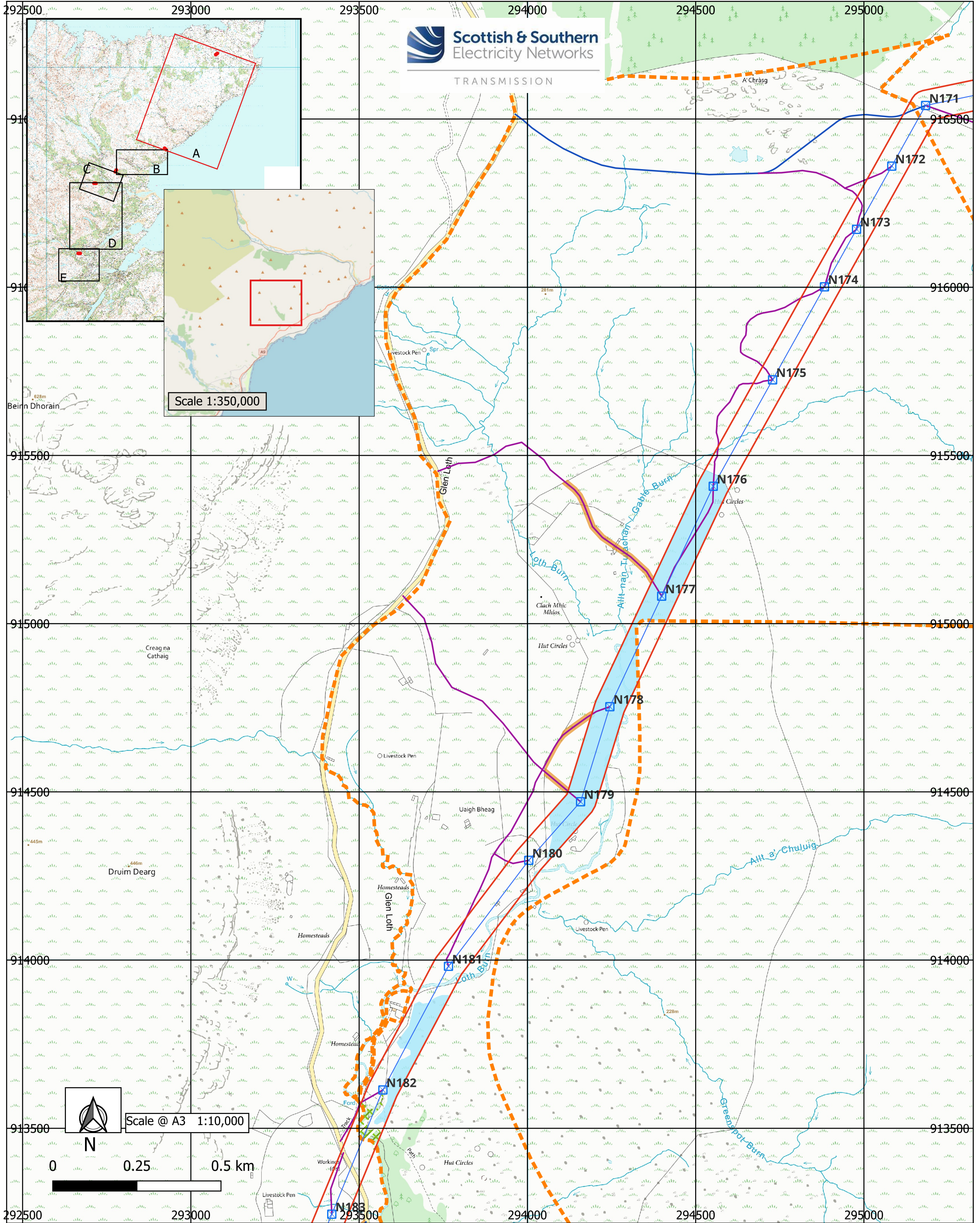
Table 9.2: Compensatory planting		
Compensatory Planting Area		13.79

Table 9.3: Woodland Removal Impact of Infrastructure		
Item	Woodland type	
	Conifer woodland	6.63

Total Loss of Woodland Area	Broadleaved woodland	7.16
Total Compensatory Planting Area off-site	Conifer woodland	5.95
	Broadleaved woodland	6.48
Total Restocking/ Replanting Area on-site	Conifer woodland	0.68
	Broadleaved woodland	0.68
Total Net Loss of Woodland Area		0

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

Operational Corridor

Central line Operational Corridor

Proposed 400kV OHL Towers

NWSS- Native woodland

20m Access Corridor

Access Tracks- New Stone Perm

Access Tracks- New Stone Temp

Conifer woodland- Operational Corridor 90m

Broadleaved woodland- Operational Corridor 90m

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Woodland report
Project No- LT000132
Spittal- Loch Buidhe - Beaully 400kV Connection
Figure 1. Woodland Impacted by the Proposed Development
Section A- Glen Loth Parcel 1072

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