Volume 5: Appendix 8.2.3 – Woodland Report: Inches, Burn of Guinea Wood, Burnhead Woodland

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1. WOODLAND REPORT: INCHES, BURN OF GUINEA WOOD, BURNHEAD WOODLAND

1.1 Introduction

1.1.1 This Woodland Report has been prepared by Scottish Hydro Electric Transmission plc (the Applicant) who, operating and known as Scottish and Southern Electricity Networks Transmission (SSEN Transmission), own, operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands.

1.1.2 This Woodland Report will accompany an application for Consent under Section 37 of the *Electricity Act 1989*[1] (as amended) and Section 57(2) of the *Town and Country Planning (Scotland) Act 1997* to construct and operate approximately 105.2 kilometres (km) of new double circuit 400 kilovolts (kV) overhead transmission line (OHL) between Kintore and Tealing (hereafter referred to as the 'Proposed Development'). A full description of the Proposed Development and its ancillary works is set out within **Volume 1, Chapter 3: Project Description** of this EIAR.

1.2 Purpose of this Woodland Report

1.2.1 As part of the Environmental Impact Assessment (EIA) process, it was identified that the OHL construction and the access tracks required to construct the Proposed Development would cross a number of woodland areas within private or state-owned landholdings.

1.2.2 This Woodland Report provides a conceptual assessment of the woodland areas that are affected by the Proposed Development, including the requirement of woodland removal and management recommendations to mitigate the impact of the woodland removal.

1.2.3 This Woodland Report relates to land at Inches, Burn of Guinea Wood, Burnhead Woodland and the relevant landholding property boundary is presented in **Figure 8.1.3: Landowner Boundaries**.

1.2.4 Field surveys of the woodland areas have been undertaken and have been used to determine the various woodland characteristics in order to identify the woodland removal required and recommended. This Woodland Report also sets out the area quantity (in hectares (ha)) to be compensatory planted to ensure no net loss of woodland is achieved as required by The Scottish Government's Policy on Control of Woodland Removal[2].

Requirement and Objectives of the Report

1.2.5 This Woodland Report details the works required to the woodland, including the felling and any restocking, due to the construction and operation of the Proposed Development.

1.2.6 The objectives of this Woodland Report are to:

- provide 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; and
- describe any mitigation measures proposed to address likely impacts relating to loss of woodland and windthrow risk and to meet The Scottish Government's Policy on Control of Woodland Removal by identifying the required quantity for compensatory planting.

Limitations and assumptions

1.2.7 All data included within this Woodland Report has been gathered from field surveys or desk-based assessments, which includes analysis of nationally held datasets, up to date aerial imagery and field measurements and data collection.

[1] UK Government, 1989. *Electricity Act 1989.* [Online] Available at: https://www.legislation.gov.uk/ukpga/1989/29/contents
[2] Forestry Commission Scotland, 2009. *Scottish Government's Control of woodland Removal Policy* [Online] Available at: https://www.forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal

1.2.8 Baseline data was derived from Scotland's environmental web[3] and Scottish Forestry map viewer[4]. The data sources identified in **paragraph 8.4.6** of **Volume 2, Chapter 8: Forestry** were also used to inform this Woodland Report.

1.2.9 Forests (or woodlands) comprise the land, of at least 0.5 ha (UKFS: V5 2023) under areas of trees with a canopy cover of at least 20%, or having the potential to achieve this, including the integral open space, as well as any felled areas awaiting replanting and are identified on the National Forest Inventory (NFI). The term 'forest' and 'forestry' for the purpose of this report is used to refer to areas that are typically coniferous that are managed for commercial timber production. The term 'wood' and 'woodlands' is used to refer to areas that are typically broadleaved and deciduous and not principally managed for timber production.

1.2.10 Woodland structure and age for the purpose of this Woodland Report have been categorised into an age class matrix:

- Young – young trees, generally less than 5 years old;
- Immature – trees between approximately 6-15 years old;
- Pole Stage – trees between 16 – 30 years old, primarily conifer;
- Mature – trees considered to be of felling age, 31 –50 years and over; and
- Established – established range of age classes with mature trees and an understory of younger trees.

1.2.11 In addition, to simplify the reader's understanding, a species matrix has been derived to categorise the species along the length of the Proposed Development:

- Felled – trees which have been felled and are awaiting restocking;
- Mixed Broadleaves – broadleaf trees containing a range of species including native trees such as Oak or Birch, may also contain non-native trees such as Sycamore or Chestnut;
- Mixed Woodland – a diverse mix of conifer and broadleaf trees with non-native species present;
- Native Mixed Woodland – mixed woodland containing native broadleaf species such as Oak or Birch and including elements of Scots Pine;
- Conifer – Conifer species; Sitka spruce, Norway spruce, Larch, Firs or Pines; and
- Scrub/Regen – areas of unmanaged land with low density, self-seeded trees. A mixture of species with non-native conifer and broadleaf trees present.

1.3 Woodland Property

1.3.1 This woodland report pertains to several scattered woodlands on a single privately owned property. The National Grid Reference (NGR) of the centre-most woodland block is NO754809. The total area of these specified woodlands affected by the proposed OHL alignment is 1.70 ha. The OHL alignment runs in a northeast – southwest direction, with the northeastern-most woodland block on this property being located at NO761815 (near Tower S19), and the southwestern-most at NO749801 (near Tower S25).

1.3.2 No current Long-Term Forest Plans or other woodland management plans are active for any of these woodlands. No current or recent Felling Permissions have been issued for any of these woodlands.

1.4 Development Requirements

400 kV Overhead Line

1.4.1 The section of OHL applicable to the property is from Tower S19 in the north, southwards to the crescent-shaped woodland along the north edge of the Glenbervie – Auchenblae public road, ca. 71 m north of Tower S25.

[3] Scottish Forestry Land Information Search URL: https://map.environment.gov.scot/LIS_Agri/Agri.html
[4] Scottish Forestry Map Viewer URL: https://scottishforestry.maps.arcgis.com/apps/webappviewer/index.html?id=0d6125cfe892439ab0e5d0b74d9acc18

1.4.2 The Study Area for this assessment is based on the required Operational Corridor (OC) (see **paragraphs 3.8.21 to 3.8.22** in **Volume 1, Chapter 3: Project Description**. The Applicant defines the OC as the area in which it has rights to remove woodland for the purposes of the safe construction, resilience and continued 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 with reference 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 to allow for a mature tree falling towards the OHL at the mid-point on an OHL span between two Towers, taking account of topography and tree height at maturity. Standard falling distance for a mature conifer tree is considered to be a minimum of 30 m. Where the OC passes through areas of native broadleaved woodland, it is noted that the width of woodland may be reduced, due to the general lower height and characteristics of the tree species present and as will be detailed in the Woodland Retention Plan.

1.4.3 The 400 kV OHL standard tower dimensions for the Proposed Development have a width of 11.2 m at the widest part (crossarm) of the tower ie from outside conductor to outside conductor, in addition to this the safety vicinity zone from each conductor is a 5.3 m radius around the conductor.

1.4.4 The OHL infrastructure and minimum safety clearance distance is therefore 90 m (45 m either side of the OHL centreline) and this has been utilised to calculate the area of the OC. In some cases, such as angle towers the requirement may be slightly in excess of this distance, however the average minimum distance has been used in this assessment.

Access Track Route Design

1.4.5 Access track creation through woodland will be required at one location (centred at NGR NO 75836 81192), and felling will be associated with this. All other access tracks will pass outside of woodland and are not relevant to this report.

1.5 Woodland Characteristics

1.5.1 The species and woodland characteristics are as follows (woodland blocks referenced by the NGR at their centre point):

Table 1: Woodland Characteristics

Wood/Forest	Grid reference	Notes
Inches	NO749802	Nordmann fir; Immature; Top height 3 m. Other notes: Heavily browsed and suppressed
	NO750805	Mixed broadleaves; Immature; Top height 8 m. Other notes: None
	NO754809	Mixed broadleaves (primarily beech); Mature; Top height 18 m. Other notes: None
	NO761815	Mixed broadleaves; Immature; Top height 8 m. Other notes: Partially failed woodland creation area
	NO761816	Mixed broadleaves (primarily rowan); Immature; Top height 8 m. Other notes: Roadside tree strip
Burn of Guinea Wood	NO752807	Mixed broadleaves (primarily birch); Immature; Top height 8 m. Other notes: None
Burnhead Woodland	NO758810	Mixed broadleaves; mix of Immature – Pole Stage ages; Top height 8 m. Other notes: None

1.5.2 A desk-based study of the woodland areas was conducted, utilising web-based data provided by Scottish Forestry[3] and referencing the Scottish Government's Ancient Woodland Inventory, to identify current woodland environmental designations and classifications.

1.5.3 The Scottish Forestry Map Viewer[4] provides spatial data on the Native Woodland Survey of Scotland[5] and classifies the woodland types into four categories:

- Native woodland[6];
- Nearly-native woodland[7];
- Open land habitat[8]; and
- Plantations on Ancient Woodland Sites (PAWS)[9].

1.5.4 A desk-based study of the woodland area, using both the Ancient Woodland Inventory and the Native Woodland Survey of Scotland, has identified small areas of Long Established of Plantation Origin (LEPO) (2b – 1860) and Native Woodland as detailed in **Table 2: Woodland type affected by the Proposed Development**.

Table 2: Woodland type affected by the Proposed Development

Woodland	Ancient semi-natural native broadleaved woodland (ASNW) 1a	Ancient semi-natural native broadleaved woodland (ASNW) 2a	Long Established of Plantation Origin (LEPO) (1b – 1750)	Long Established of Plantation Origin (LEPO) (2b – 1860) -	Other Woodlands (Roy)	Native broadleaved woodland	Total classified woodland area
Inches, Burn of Guinea Wood, Burnhead	-	-	-	0.08 ha	-	0.11 ha	0.20 ha

* - Rounding errors can occur

Plate 1: Woodland at Burn of Guinea Wood, taken from NGR NO 75267 80794, facing W.

[5] Scottish Forestry Native Woodland Survey of Scotland: Glossary of Terms; URL: https://www.forestry.gov.scot/publications/75-native-woodland-survey-of-scotland-glossary-of-terms/viewdocument/75
[6] Native Woodland – woods where the canopy cover is composed mainly of native species (ie over 50%)
[7] 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.
[8] Open Land Habitat – areas with <20% canopy cover of trees and shrubs adjoining a native woodland.
[9] PAWS - Plantations 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 woods.

Plate 2: Woodland at Inches, taken from NGR NO 74938 80173, facing NW.

Plate 3: Woodland at Inches, taken from NGR NO 75401 80849, facing NE.

Plate 4: Woodland at Burn of Guinea Wood, taken from NGR NO 75322 80847, facing SW.

Plate 5: Woodland at Inches, taken from NGR NO 76257 81518, facing W.

1.6 Windthrow Risk Impact

1.6.1 The woodlands are situated in a lowland arable agricultural zone, on and between low rolling hills. The predominant soil types[10] are freely drained humus-iron podzols and brown earths.

1.6.2 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 is 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,

[10] As per the National Soil Map of Scotland (1:250,000), accessed at https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/.

exposure, altitude and aspect in relation to the prevailing wind direction and any previous management regimes from either, observations at a site level or via an approved management plan. Reference is also made to Forest GALES[11] 2.5 Forest Research decision support system. Felling outwith the OC to a windfirm boundary is termed Management Felling and is presented within **Figure 8.2.3: Proposed Felling Requirements**.

1.6.3 The woodland sites affected by the Proposed Development have a relatively narrow range of 'Detailed Aspect Method of Scoring' (DAMS)[12] windthrow hazard class scores, these being between 10 and 12. As such, this gives it a risk classification ranging from Sheltered to the lower end of Moderately Exposed, with corresponding low risk of windblow occurring.

1.7 Woodland Management Impact

1.7.1 The OHL alignment will create additional challenges for the future management of the forest as it dissects existing management coupes. An electrical hazard will be introduced adjacent to each of these woodland blocks, creating an additional challenge for future forest management. The constraint associated with the electrical hazard will be reduced by regular maintenance of the operational corridor, which will avoid the incidences of "Red Zone"[13] trees.

1.7.2 The OHL alignment does not cross any of the existing internal forest road network. Where it does cross driveways and/or agricultural access tracks, the OHL will be built to comply with statutory clearances above these, which will reduce the hazard in respect of public traffic and/or future timber haulage. The OHL alignment 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 woodlands.

1.7.3 The Proposed Development will result in the permanent removal of existing conifer and broadleaved woodland from the OC. This will reduce the productive forestry land available for planting within the woodland property area, as the OC will require to be kept clear of trees.

1.8 Mitigation Opportunities

1.8.1 The OC woodland removal area is required for the construction and functioning of the new OHL infrastructure. Reference to **Section 1.10: Compensatory Planting**, will fully mitigate the OC woodland removal area by replanting the area quantity (hectares) of woodland removed.

1.8.2 The management felling areas will be replanted by the landowner, in-line with the Scottish Forestry felling licence regulations of the area felled must be replanted.

1.9 Woodland Removal Impact

1.9.1 Woodland removal area calculations are approximate and have been rounded up to reflect the worst-case scenario for removal. Woodland felling will be reduced as much as possible through mitigation.

Table 3: Woodland Removal for Infrastructure

Item	Woodland Type	Area
Infrastructure Felling	Mature conifer plantation	0.20 ha
	Mixed broadleaved woodland	1.89 ha

[11] Forest Research (2025). Available at: http://www.forestdss.org.uk/geoforestdss/. The Detailed Aspect Method of Scoring (DAMS) is a system used to assess wind exposure in forestry and land management. It provides a numerical score that quantifies the level of exposure a site experiences based on factors such as elevation, topography, and aspect (the direction a slope faces). The DAMS score helps foresters predict wind risk, which is crucial for understanding tree stability, growth potential, and the likelihood of windthrow (trees being uprooted or broken by wind) The scoring system ranges from 0 to 24, with higher scores indicating more exposure to wind.
[12] Detailed Aspect method of Scoring (DAMS) Ref. Forest Research, "Forest Gales software programme" and Forestry Commission Leaflet 85 "Windthrow Hazard Classification"
[13] 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 https://ukfisa.com/

Item	Woodland Type	Area
	Mixed woodland	0.14 ha

Table 4: Compensatory Planting

Item	Woodland Type	Area
Compensatory Planting Area	Mixed conifer or mixed broadleaves	2.23 ha

Table 6: Woodland Removal Impact of Infrastructure

Item	Woodland Type	Area
Total Loss of Woodland Area		2.23 ha
Total Compensatory Planting Area		2.23 ha
Total Net Loss of Woodland Area		**0.00 ha**

Table 7: Woodland Removal for Management Felling

Item	Woodland Type	Area
Management Felling		0.07 ha
Replanting/Restocking		0.07 ha
Net Loss of Woodland Area		**0.00 ha**
Note. Felling and restocking approval is via Scottish Forestry Felling Permission application process or Long-Term Forest Plan application or amendment process. This is to be sought by the landowner on whose land the management felling takes place, who is also responsible for all associated restocking operations.		

1.10 Compensatory Planting

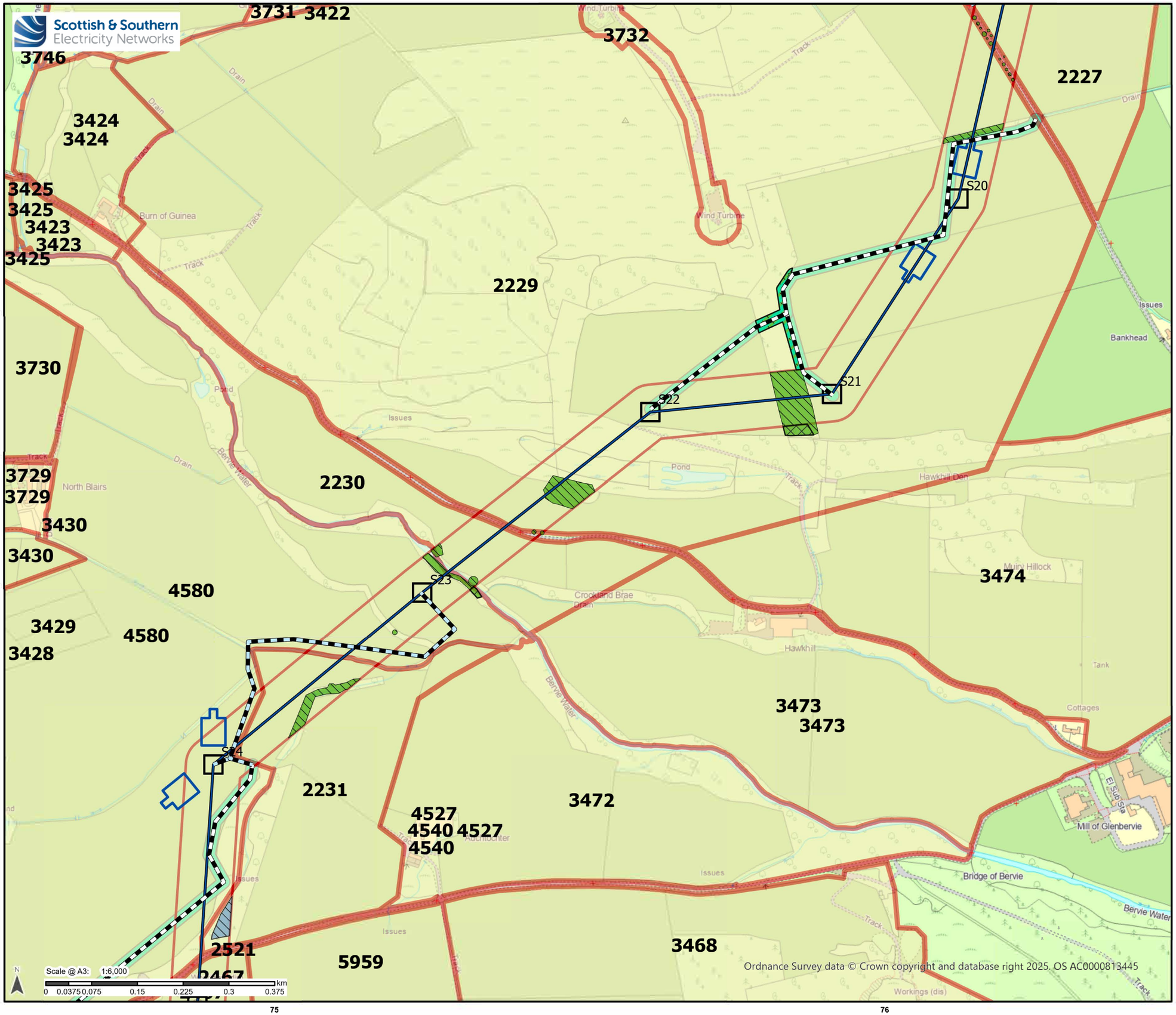
1.10.1 Compensatory planting to achieve the area quantity (hectares) of woodland removal, referenced above will be provided for the OHL and access track OC area and will be in accordance with the Scottish Government's Policy on Control of Woodland Removal of no net loss of woodland.

1.10.2 Compensatory planting will be detailed within **Volume 5, Appendix 8.1: Compensatory Planting Management Strategy.**

1.10.3 Areas of tree felling required to facilitate construction (where necessary) outside of the OC, temporary access tracks, holding out positions and EPZ (Equi-potential zones) and areas felled to a windfirm boundary will be replanted on site. Replanting of these sites will follow the conditions set out in the Scottish Forestry approved felling permission (where required) and will be the responsibility of the landowner.

Figure 8.1.3 Landowner Boundaries

Scottish & Southern Electricity Networks



Landowner Boundaries

- Landowner Boundaries
- Proposed Tower - 400kV (with tower number)
- Propoosed OHL Alignment - 400kV
- 90m Operational Corridor

Proposed Access Tracks

- Access new stone permanent
- Access_New_Stone_Temp
- Proposed Conductor Pulling Area (EPZ)
- Permanent Access 20m Buffer

Proposed Felling requirements

- OC
- MF
- Access

Woodland Type

- BL
- CON

Project No:

Project:

Title:

Drawn by:

Date: 18/07/2025

Drawing:

Figure 8.2.3 Proposed felling requirements

Proposed Tower - 400kV (with tower number)

Propoosed OHL Alignment - 400kV

90m Operational Corridor

Proposed Access Tracks

Access new stone permanent

Access_New_Stone_Temp

Proposed Conductor Pulling Area (EPZ)

Permanent Access 20m Buffer

Proposed Felling requirements

OC

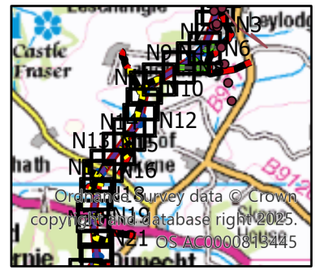
MF

Access

Woodland Type

BL

CON



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