Volume 5: Appendix 8.2.34 – Woodland Report: Inverury Forest

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1. WOODLAND REPORT: INVERURY FOREST

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 Free Church Wood and the relevant landholding property boundary is presented in **Figure 8.1.34: 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 Inverury Forest (hereinafter referred to as the property) is approximately 1.5 m west of Luthermuir. National Grid Reference: NO 64323 68371. The forest is accessible via a single carriage road, connecting to A9 at Bridgermill in the south. The property is affected by the Proposed Development is from Tower S76 to S75.

1.4 Development Requirements

400 kV Overhead Line

1.4.1 The OC is described in greater detail in **Volume 1, Chapter 3: Project Description** and is defined as the designated area around Proposed Development that is maintained to ensure safe and reliable operation of the overhead line (OHL).

1.4.2 The 400 kV OHL standard tower dimensions for the project 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.

1.4.3 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 Operational Corridor occupied by infrastructure. In some cases, such as angle towers

[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

the requirement may be slightly in excess of this distance, however the average minimum distance has been used in this assessment.

1.4.4 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 during construction to allow greater tree retention depending on factors such as tree height, topography, crown reduction or other mitigation strategies

Access Track Route Design

1.4.5 The property is accessible from a single carriage road. Temporary tracks off the minor road will be constructed to access each tower location, these however are contained within the OC (see **Figure 8.2.34: Proposed Felling Requirements**). No additional tree removal is required to facilitate construction.

1.4.6 Stump removal and residue mulching will be required for the installation of new access tracks and at each tower location for the formation of a construction compound and temporary crane pad.

1.4.7 Temporary woodland removal will be required to facilitate Holding out positions; tension towers require a temporary 'holding out position' to raise the tower working platforms which would be utilised when stringing the conductors. This platform is winched into position by a tractor at one and a half the tower height away and once in position gets locked off and attached to concrete sledges,

1.5 Woodland Characteristics

1.5.1 The forest is under public ownership, managed by Forestry and Land Scotland and sits within the wider Inglismaldie and Denlethen Land Management Plan (2015 – 2024) which is currently under review. The forest is mainly productive conifer plantation with areas of broadleaves, which are impacted by the Proposed Development. The area impacted is mainly comprised of broadleaves dominated by birch, but oak, beech and willow and spruce are also found throughout. The forest area impacted by the Proposed Development is between Towers S75 and S76.

1.5.2 The site has a warm, moderately exposed and moist climate. The soils are very moist moisture status and poor nutrient, surface water gleys. The terrain is generally flat.

1.5.3 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.

1.5.4 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].

1.5.5 A desk-based study of the woodland area, using both the Ancient Woodland Inventory and the Native Woodland Survey of Scotland, identified the area of Inverury Forest impacted by the Proposed Development and identified as Native woodland is 1.44

[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.

ha. An area of 3.63 ha is classified as 2b, Long Established (of plantation origin) within the Ancient Woodland Inventory (AWI). This is detailed in **Table 1: Woodland type affected by the Proposed Development**.

1.5.6 Historic maps suggest that the woodland has undergone significant and regular management, indicating a regular change in the woodland character and species composition, this confirmed by the lack of mature trees. The lack of any woody groundcover plants would also suggest relatively recent restructuring of forest soils.

Table 1: 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 woodland area
Inverury Forest	-	-	-	3.63 ha	-	1.44 ha	5.07 ha

* - Rounding errors can occur

Plate 1: Looking northeast along B road to Tower S75

Plate 2: Looking northeast towards Tower S75

1.5.7 **Plate 2** shows the pole-stage native broadleaf woodland looking northeast towards Tower S75. The majority of which is made up of birch, oak and willow with scattered Sitka spruce throughout.

Plate 3: Looking southwest towards Tower S76

1.5.8 **Plate 3** shows a similar species composition, with pole stage birch, oak and willow, with mature scattered Sitka spruce throughout. **Plate 3** looks southwest towards Tower S76 and highlights the impoverished ground conditions.

1.6 Windthrow Risk Impact

1.6.1 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 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, 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[10] 2.5 Forest Research decision support system. Felling

[10] 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

outwith the OC to a windfirm boundary is termed Management Felling and is presented within **Figure 8.2.34: Proposed Felling Requirements**.

1.6.2 The woodland site affected by the Proposed Development has a 'Detailed Aspect Method of Scoring' (DAMS)[11] windthrow hazard class score ranging between 6 and 12, classified as sheltered to moderately exposed. The local climate is classified as warm, moderately exposed and moist. The soils are very moist moisture status and nutrient poor surface water gleys.

1.6.3 Due to the relatively young age of trees and their sparce and irregular distribution, the windthrow risk is considered negligible, no Management Felling is recommended here.

1.7 Woodland Management Impact

1.7.1 The OHL alignment will create additional challenges for the future management of the forest as it introduces an electrical hazard. 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" trees.[12]

1.7.2 The Proposed Development will require permanent sterilisation of wooded areas from the Operational Corridor. This will reduce the forestry restructuring/planting land available within the woodland property area, as the operational corridor will be maintained clear of trees.

1.7.3 During the construction phase, a level of disruption will be created for the undertaking of routine forestry management activities by the landowner on the woodland property. This will be project managed through communication and agreement with the affected stakeholders.

1.8 Mitigation Opportunities

1.8.1 The Operational Corridor woodland removal area is required for the construction and functioning of the new OHL infrastructure. Opportunities will be assessed for woodland replanting within the Operational Corridor, the identification of suitable areas cannot be guaranteed due to the requirement of maintaining the safe energisation of the OHL. Reference to **Section 10**, will fully mitigate the Operational Corridor woodland removal area by replanting the area quantity (hectares) of woodland removed.

1.8.2 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.

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 9.2 Woodland Removal for Infrastructure

Item	Woodland Type	Area
Infrastructure felling	Mixed broadleaved	5.13 ha

Table 9.3 Compensatory Planting

Item	Woodland Type	Area
Compensatory Planting Area	Mixed woodland	5.13 ha

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.

[11] Detailed Aspect method of Scoring (DAMS) Ref. Forest Research, "Forest Gales software programme" and Forestry Commission Leaflet 85 "Windthrow Hazard Classification".

[12] 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/

Table 9.4 Woodland Removal Impact of Infrastructure

Item	Woodland Type	Area
Total Loss of Woodland Area		5.13 ha
Total Compensatory Planting Area		5.13 ha
Total Net Loss of Woodland Area		**0.0 ha**

Table 9.5 Woodland Removal for Management Felling

Item	Woodland Type	Area
Management Felling		0.0 ha
Replanting/Restocking		0.0 ha
Net Loss of Woodland Area		**0.0 ha**
Note. Felling approval is via Scottish Forestry Felling Licence application process or Long Term Forest Plan application or amendment process.		

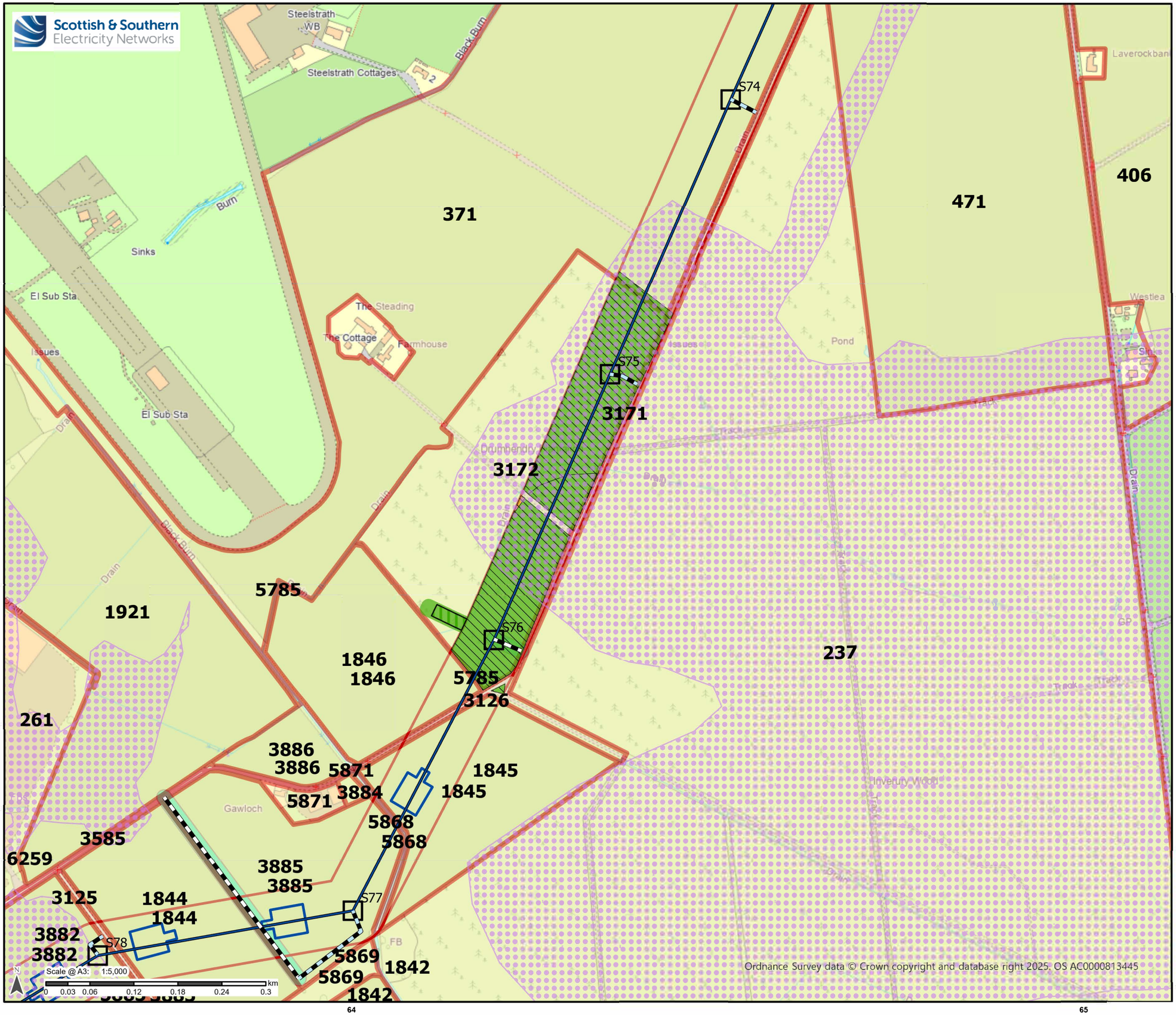
1.10 Compensatory Planting

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 8.1.34 Landowner Boundaries



Landowner Boundaries

Proposed Tower - 400kV (with tower number)

Propoosed OHL Alignment - 400kV

90m Operational Corridor

Ancient Woodland Inventory

Long-Established (of plantation origin)

Proposed Access Tracks

Access new stone permanent

Access_New_Stone_Temp

Proposed Conductor Pulling Area (EPZ)

Permanent Access 20m Buffer

Proposed Felling requirements

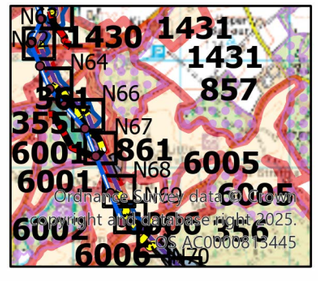
OC

Infrastructure

Woodland Type

BL

CON/BL



Project No:

Project:

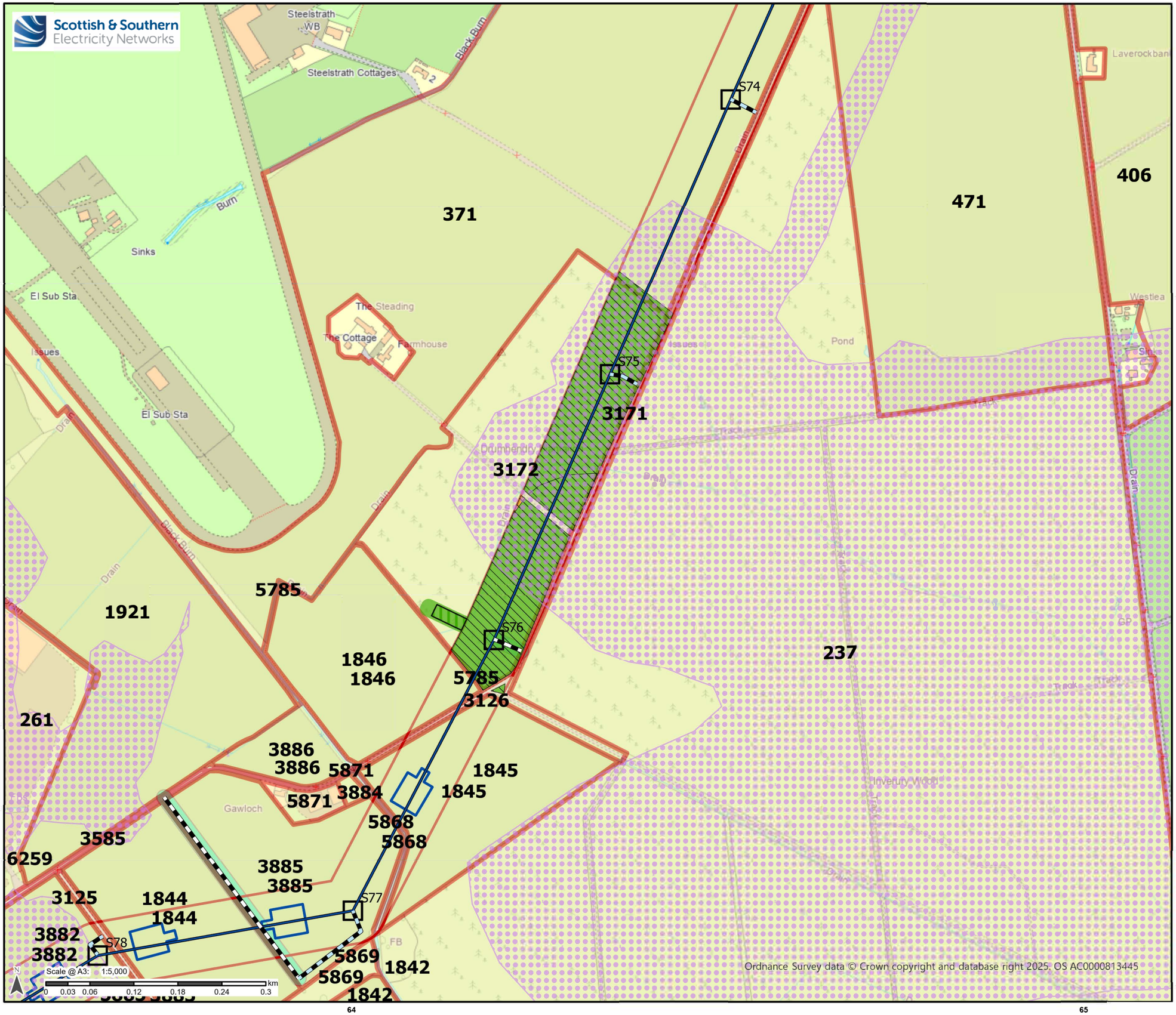
Title:

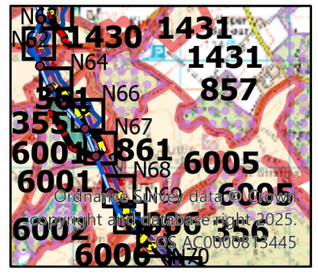
Drawn by:

Date: 16/07/2025

Drawing:

Figure 8.2.34 Proposed felling requirements





Landowner Boundaries

Proposed Tower - 400kV (with tower number)

Propoosed OHL Alignment - 400kV

90m Operational Corridor

Ancient Woodland Inventory

Long-Established (of plantation origin)

Proposed Access Tracks

Access new stone permanent

Access_New_Stone_Temp

Proposed Conductor Pulling Area (EPZ)

Permanent Access 20m Buffer

Proposed Felling requirements

OC

Infrastructure

Woodland Type

BL

CON/BL

Project No:

Project:

Title:

Drawn by:

Date: 16/07/2025

Drawing: