

**Beauly to Blackhillock to New Deer to
Peterhead 400 kV Project
Environmental Impact Assessment Report
Volume 5 | Appendices**

**Appendix 12.1.21: Woodland Report Parcel 300
Dochfour**



APPENDIX 12.1.21: Woodland Report Parcel 300 Dochfour

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1 Introduction

- 1.1.1 This Appendix presents information relevant to the Beauly to Blackhillock to New Deer to Peterhead 400 kV OHL Project (the Proposed Development). It should be read in conjunction with the Environmental Impact Assessment (EIA) Report, specifically **Chapter 12: Forestry**, for full details of the Proposed Development.
- 1.1.2 As part of the EIA, it has been identified that construction of the Proposed Overhead Line (OHL) and the associated access tracks would cross several woodland areas within private or publicly owned landholdings.
- 1.1.3 This woodland report has been prepared to assess the potential impacts of the Proposed Development on Woodland, Parcel 300, Dochfour. It includes the requirements for woodland removal and management recommendations to mitigate the impact of the woodland removal. The report provides an overview of the characteristics of the affected woodland, including woodland composition, site conditions, soil conditions, exposure levels and existing felling approvals. The report also provides details of existing infrastructure, and potential constraints related to forestry operations. It aims to inform decision-making by identifying key environmental and logistical considerations associated with the Proposed Development. Additionally, it evaluates the feasibility of timber extraction and access whilst highlighting necessary mitigation measures to minimise disruption to the woodland ecosystem and surrounding landscape.
- 1.1.4 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 quantity (ha) to be compensatory planted to ensure no net loss of woodland is achieved.

2 Woodland Property

- 2.1.1 The landholding property boundaries are identified in **Figure 12.1.21a: Parcel 300 Location Map**. The woodlands of Dochfour form part of Dochfour estate which is found 6.2 km southwest of Inverness in the Highland Council area (NH 593611 419512). The Proposed OHL Alignment travels through the centre of these forest plantations which cover the Aird from An Leacainn to Dunain Hill.

3 Development Requirements

3.1 400 kV Overhead Line Infrastructure Requirements

- 3.1.1 The Study Area for this assessment initially focussed on a 100 m width either side of the centreline of the Proposed OHL Alignment and ancillary infrastructure, where relevant, prior to the identification of an Operational Corridor (OC). 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) 2002¹ and The Electricity Act 1989². The OC is defined based on two different factors as follows:
- The first factor in which the OC is determined is 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 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 45 m. Where the OC passes through areas of broadleaved woodland, it is noted that the width of woodland removal is likely to be reduced, due to the general lower height and characteristics of the tree species present.
 - The second factor that is considered is the maximum distance that the OHL conductors can blow out from the tower under a 1 in 50-year return period wind condition, plus the required electrical clearance distance.

¹ UK Gov (2002). The Electricity Safety, Quality and Continuity Regulations 2002. Available at: [The Electricity Safety, Quality and Continuity Regulations 2002](#)

² UK Gov (1989). Electricity Act 1989. Available at: [Electricity Act 1989](#)

This is to ensure that the OHL conductors do not come into contact with, or come close enough to, any object that could result in an electrical clearance infringement. This conductor blowout distance varies between each tower dependent on span length and must therefore be considered on a span-by-span basis.

- 3.1.2 The typical OC required within areas of commercial conifer forestry for a 400 kV OHL is 90 m (i.e. 45 m either side of the centre line). Where the OC passes through areas of broadleaved woodland, it is proposed that the extent of woodland removal is likely to be reduced due to the lower height of the tree species present. The OC for the Proposed OHL Alignment through areas of native woodland has been reduced to 70 m (i.e. 35 m either side of the centre line of the OHL). This has been based on the likely height of the woodland at maturity. Where any woodland removal within the OC is proposed to be reduced from the 45 m either side of the line, a site-specific assessment must be carried out to confirm that the conductor blowout does not exceed the OC width. If the conductor blowout exceeds the OC, then the width of the OC must be increased to meet the requirements of the blowout assessment as a minimum. This will ensure compliance with ESQCR requirements and that the required safety clearances are maintained.
- 3.1.3 A resilient OC of 70 m in width is required throughout the broadleaved woodland area within Woodland Parcel 300, and 90 m where commercial conifer woodland is encountered, and taking into account the requirements of the conductor blowout assessment. The OC is illustrated in **Figure 12.1.21b: Parcel 300 Proposed Felling Requirement**.

3.2 Access Track Route Design

- 3.2.1 The tracks associated with this section of the OHL are within the OC.

4 Woodland Characteristics

4.1 Woodland Composition and Site Conditions

- 4.1.1 The woodland was surveyed in November 2024. The forest is currently a mixed commercial forest. The western section is slightly poorer and more poorly drained consisting of a mixture of dry knolls with mainly Scots pine (SP) and wet hollows with largely lodgepole pine (LP) and Sitka spruce (SS). The Sitka spruce has locally shown good growth there where nutrient availability is better. Thinning has not taken place, probably as a result of poor access, and difficult ground conditions. Wind damage is prevalent as ground conditions hamper rooting and the absence of thinning has led to drawn up, unstable trees.
- 4.1.2 The eastern section is better drained and contains almost exclusively Scots pine and larch. Growth rates are not exceptional due to the altitude and nutrient availability, but the crop has been well thinned and managed in the past. The majority of the forest in and around the OC is mature. Where the plateau drops down towards the A82 several other woodland elements are found, from west to east these are; an area of young mixed conifer, an area of Sitka spruce at the age of first thinning, recent broadleaved planting, well-developed pinewood.
- 4.1.3 The proposed section of OHL consists of two sections of OC between towers BC5-7 and BC5-11 and BC5-14 and BC5-18A.
- 4.1.4 The area has a long history of forest cover demonstrated by the LEPO (long established plantation origin) classification in the Ancient Woodland Inventory which covers almost the entire forest plantation. A small area of PAWS (plantation on ancient woodland site) is found in the east of the plantation around tower BC5-18 (see **Figure 12.1.21b: Parcel 300 Proposed Felling Requirements**).
- 4.1.5 The Torvean Landforms SSSI is found just east of this parcel. No other environmental designations apply to the parcel.
- 4.1.6 The area was previously covered under a forest plan (4312150), but it appears there is no current forest plan in place.

- 4.1.7 Both areas are well used for recreation and extensive tracks and paths are found throughout. The great glen way crosses through the eastern section of this property.
- 4.1.8 The landscape is characterized by the rocky moorland plateau of the Aird.
- 4.1.9 The forest plantation is moderately exposed with a maximum Detailed Aspect Method of Scoring (DAMS) of 16^{3,4}.
- 4.1.10 The Ecological Site Classification⁵ describes the site as having a cool, moderately exposed and wet climate. The soils have a slightly dry moisture status and are very poor nutrient status.
- 4.1.11 The Soil Map of Scotland⁶ identifies the soils as being predominantly are Humus-iron podzols with peaty gleyed podzols. Soil conditions throughout the ownership are characterised by a high-water table leading to significant gleying and inhibiting rooting. In the eastern section of the plantation the water table is extremely high and often above ground level.
- 4.1.12 Access in the western section is limited as there are currently no forest roads suitable for haulage leading into this part of the forest. The eastern section of the forest is well-roaded and access can be obtained via the Blackfold road (see **Figure 12.1.21b: Parcel 300 Proposed Felling Requirements**). Particularly in the western section of Dochfour roading will need to be developed / upgraded to facilitate the operations as there are currently no forest roads suitable for haulage.
- 4.1.13 In the eastern section the existing infrastructure is sufficient for timber operations. Recent harvesting in the area has meant that the road network has been upgraded. Timber will be extracted to the unclassified C1060 Dunain to Abriachan road to the south. This is classed as a Consultation Route⁷ by the Timber Transport Forum⁸.
- 4.1.14 Considering the quality and quantity of the material and the landform, operations can largely be carried out by harvester / forwarder combinations

4.2 Photo Record – Operational Corridor Assessment

- 4.2.1 The following photographs provide a visual record of key locations along the OC. Each image illustrates existing vegetation types, land use, and notable landscape features relevant to the planning and management of the OC. Particular attention has been given to areas of mature woodland, natural regeneration, and locations where proposed works may intersect with ecologically or visually sensitive habitats. The photos are intended to support site assessments and inform mitigation strategies.

³ Forest Research (2025). Available at: <http://www.forestdss.org.uk/geoforestdss/>

⁴ 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.

⁵ Ecological Site Classification, Available at: <http://www.forestdss.org.uk/geoforestdss/>

⁶ National Soil Map of Scotland. Available at: <https://soils.environment.gov.scot/maps/soil-maps/national-soil-map-of-scotland/>

⁷ Consultation Routes are recognised as being key to timber extraction but are not up to Agreed Route standard. Consultation with the Local Authority is required and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B roads and minor roads that are not categorised should be assumed to be Consultation Routes unless covered by one of the other classifications (e.g. Severely Restricted Route).

⁸ The Timber Transport Forum. Introduction to Agreed Routes Map. Available at: <https://timbertransportforum.org.uk/agreed-routes-map/introduction-to-agreed-routes-map/>

Photo 1: Mature Sitka spruce next to windblown Lodgepole pine in western section near BC5-7 (NH 584071 421816, looking northeast)



Photo 2: Mature Sitka spruce alongside recent clearfell at property edge (NH 581647 423511, looking NE)



Photo 3: Unthinned, unstable Scots pine in western section, north of BC5-10 (NH 590224 421060, looking west)



Photo 4: Mature Lodgepole pine on extremely wet soils in western section south of BC5-10 (NH 590444 4191671, looking east)



Photo 5: Well-thinned Scots pine and Larch in eastern section at BC5-15 (NH 604954 419537, looking northeast)



Photo 6: Mature Larch on steep ground overlooking young crops at BC5-17 (NH 611842 416252, looking southeast)



Photo 7: Young Sitka spruce alongside tubed broadleaves below BC5-18 (NH 615979 415496, looking northeast)



Photo 8: Old, well-developed Scots pine and larch wood (NH 616282 414944, looking northwest)



5 Windblow Risk

- 5.1.1 It is acknowledged that the creation of the OC would result in wider potential indirect effects on the surrounding woodland areas. These areas would be subject to potential increased risk of damage (windblow). Each woodland report identifies further areas of felling to a windfirm edge, defined as 'Management Felling' (categorised as an indirect secondary impact), which is covered in more detail in the **Chapter 12: Forestry** in **Section 12.4**. Management felling would be considered as part of any application for felling permission. This would provide restocking as agreed with Scottish Forestry which would result in balancing the loss of woodland. Any felling undertaken out with the OC would be solely under the control of the relevant landowner (and not the Applicant). It is the intention of the Applicant to encourage the landowners to follow this good practice in terms of redesign of their current Long-Term Forest Plans, which in-turn would aim to follow UKFS⁹ for the implementation of the works.
- 5.1.2 The proposed felling of the OC will likely significantly increase the risk of windblow in the forest. In the western section the limited rooting along with the non-thin history and mature nature of the crop has already resulted in significant windblow, particularly in the lodgepole pine. The creation of brown edges within this area will likely result in further windblow events along the OC. If areas of Sitka spruce, which have grown at higher pace than surrounding pine, were to be removed north of BC5-7 and BC5-8 this will create a particularly unstable brown edge. In the previous forest plan for the plantation this section of the forest was approved indicating a desire from the landowner to remove this.
- 5.1.3 In the eastern section crop stability is better. The history of forest management has resulted in a forest which has higher individual tree stability. However, the mature nature of the forest along with the location, on the high ground of the great glen, does mean that windblow risk is still significant. ForestGALES¹⁰, a decision support tool for forest stability, estimates that the creation of a 60 m gap in the crop surrounding BC5-14 and BC5-15 would increase the likelihood of windblow by a factor 10.
- 5.1.4 In the area between BC5-16 to BC5-18 the line drops down to lower ground across less mature forest. The young Sitka spruce, Scots pine and larch mixture at BC5-17 is short enough that no additional felling will be required. The Sitka spruce at BC5-18 is more mature but again it is unlikely that additional felling will be required. The OC will require felling of a strip of mature larch in this section which will expose a south facing brown edge. This larch has a history of exposure and might therefore be resistant to further exposure. Between towers BC5-18 and BC5-18a an area of recently planted broadleaves and mature trees is found. The mature trees consist mainly of Scots pine and larch with elements of broadleaves. Individual stability of these mature trees is expected to be high and exposure this far down the hill much lower and limited additional felling will be required.

6 Woodland Management Impact

- 6.1.1 The impact on woodland management within this forest plantation will be significant. Taking into account the proposed management felling, large areas of mature forest will be removed to facilitate the Proposed OHL Alignment. The age of the crops means that potential financial implications from a timber income perspective are not as severe.
- 6.1.2 In the long-term woodland management will be impacted as the area of land available for commercial forestry is reduced. However, the OHL will result in green edges to which the landowner can work to in the future to split the management units into smaller areas.

⁹ Scottish Forestry (2024). UK Forestry Standard (UKFS). Available at: <https://www.forestry.gov.scot/publications/sustainable-forestry/uk-forestry-standard-ukfs> (accessed 01/05/2025)

¹⁰ Scottish Forestry. Available online at: <https://www.forestresearch.gov.uk/tools-and-resources/fthr/forestgales/>

- 6.1.3 The infrastructure built for this section of the OHL will provide a benefit to the landowner for future forest management as it could provide long-term access into the western part of the plantation, which is currently inaccessible. As part of construction works, dedicated crossing points and long-term access opportunities should be discussed with the landowner(s).
- 6.1.4 Furthermore, the OHL introduces an electrical hazard, but the constraint associated with the electrical hazard will be reduced by regular maintenance of the OC which will avoid the incidences of "Red Zone" trees (reference Forestry Industry Safety Accord FISA 804 "Electricity at Work: Forestry"¹¹).
- 6.1.5 The total loss of Native Broadleaved woodland resulting from the proposed alignment is 0.18 hectares (ha).

7 Mitigation Opportunities

7.1 Woodland Mitigation Measures

- 7.1.1 To mitigate the landscape impact of the Proposed OHL Alignment a re-planting strategy for The Aird has been set out in the Landscape chapter under the 'Landscape Replanting Proposals' as demonstrated in **Figure 12.1.21c: Parcel 300 Proposed Planting Areas**.

7.2 Restructuring

- 7.2.1 The proposed felling in the OC and the additional felling to windfirm edges will reduce the amount of mature forest on this landholding. Recent felling has taken place northeast of the proposed additional felling at towers BC5-14 and BC5-15. The additional felling will lead to an adjacency issue and mitigation will need to be put in place to reduce the impact on forest structure. This can be done through delayed restocking and / or the design of windfirm edges in the forest plan.
- 7.2.2 The felling of the OC for the development will create a new green edge to which the landowner can work in the future.

7.3 Restocking

- 7.3.1 In case the management felling takes place there will be a restock obligation on the landowner.
- 7.3.2 As set out in the Landscape chapter under the 'Landscape Replanting Proposals' restocking can take place within the OC to mitigate the visual impact of the OC. Restocking within the OC will be carried out by the applicant. Detail shown in **Figure 12.1.21c: Parcel 300 Proposed Planting Areas**.

¹¹ Forest Industry Safety Accord (2020), FISA 804 Electricity at Work: Forestry. Available at: <https://ukfisa.com/Safety/Safety-Guides/fisa-804>

8 Net Effect / Summary

8.1.1 **Tables 8.1 to 8.4** outline the operational requirements for forestry management within the OC between towers BC5-6A and BC5-11 and BC5-13 and BC5-18A. It details the areas designated for clear felling, both within the OC and additional recommended Management Felling outside the OC to address windthrow risks and forest design considerations.

Table 8.1: Woodland removal for Infrastructure, within OC

Item	Woodland Type	Area (ha)
OC felling	Mature Conifer Plantation (90 m)	19.87
OC felling	Native broadleaves (70 m)	0.18
Access Track Felling	Mature Conifer Plantation	3.75
Total area		23.79

Table 8.2: Compensatory Planting

Item	Woodland Type	Area (ha)
Compensatory Planting Area	Mature Conifer Plantation	23.61
Compensatory Planting Area	Native broadleaves	0.18
Total area		23.79

Table 8.3: Woodland Removal Impact of Infrastructure

Item	Area (ha)
Total Loss of Woodland Area	23.79
Total Compensatory Planting Area	23.79
Total Net Loss of Woodland Area	0.00

Table 8.4: Woodland removal for Management Felling, outwith OC

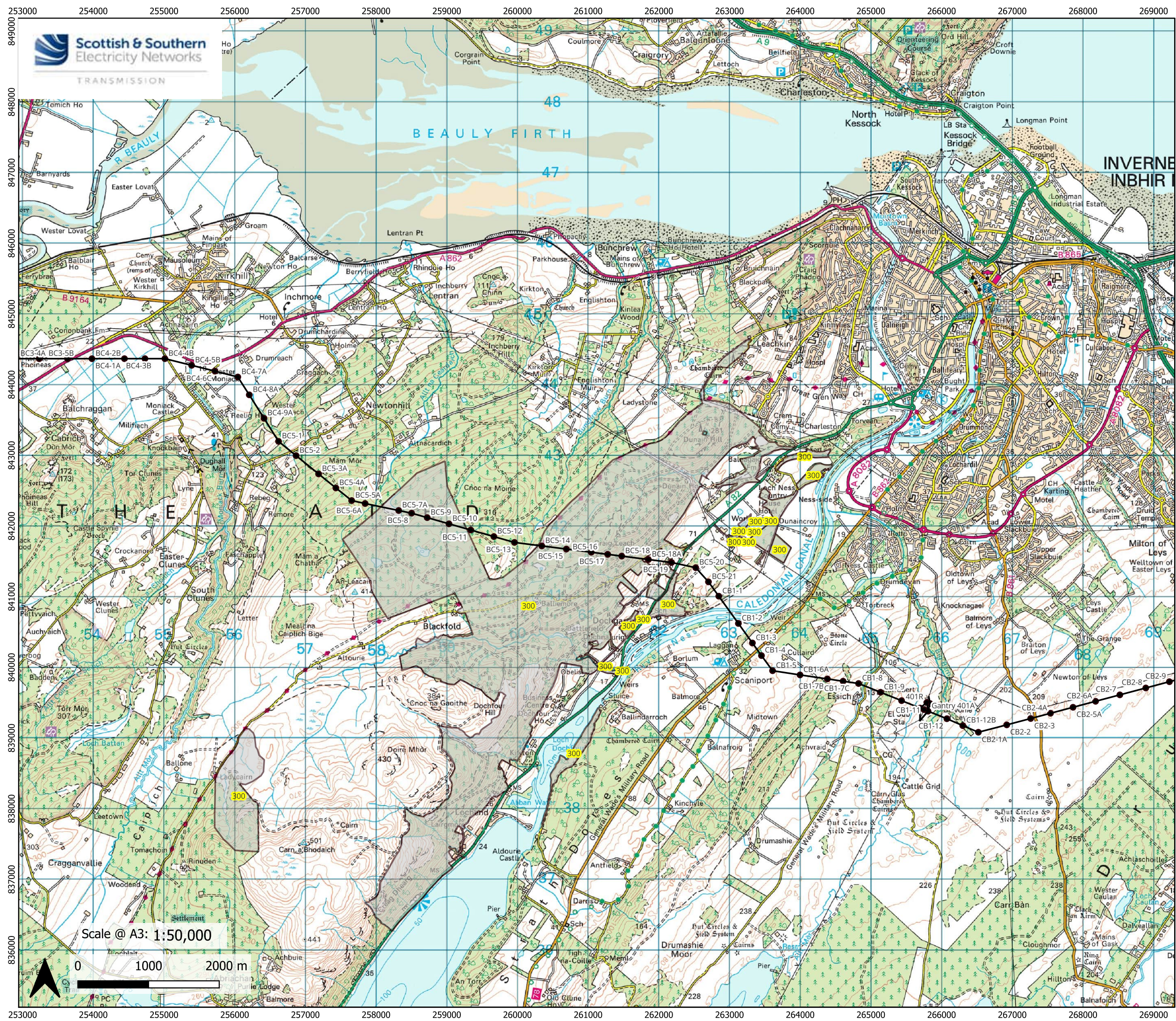
Item	Woodland Type	Area (ha)
Management Felling	Mature Conifer Plantation (90 m)	103.94
Replanting / Restocking Opportunities	Mature Conifer Plantation (90 m)	103.94
Net Loss of Woodland Area		0.00

9 Compensatory Planting

9.1.1 Only areas directly impacted by the OC will be included in the compensatory planting total, in accordance with the Control of Woodland Removal Policy (CoWRP)¹². This policy ensures that woodland loss due to development is mitigated by appropriate replanting or regeneration efforts, but it specifically applies to areas where tree removal is necessary for the Proposed Development See **Appendix 12.3 Compensatory Planting Management Strategy**.

¹² Forestry Commission Scotland (2009). Control of Woodland Removal Policy. Available at: <https://www.forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal/viewdocument/285>

- 9.1.2 Any additional felling outside the OC, such as areas cleared for windthrow management or forest design improvements, falls under the responsibility of the landowner and is not included in the compensatory planting requirements. Instead, these areas may be replanted under a forest plan revision or felling license at the landowner's discretion. This approach aligns with national forestry guidelines, balancing infrastructure development with sustainable woodland management.
- 9.1.3 The total amount of net felling requiring compensation under the CoWRP is 23.79 ha.
- 9.1.4 In order to provide a greater balance limiting long-term impacts on forestry interests it is proposed that the majority of this woodland loss is compensated via off-site compensatory planting within the same local authority area. It is proposed that full details of the areas subject to this off-site compensatory planting is notified to Scottish Forestry prior to energising the OHL.



Legend

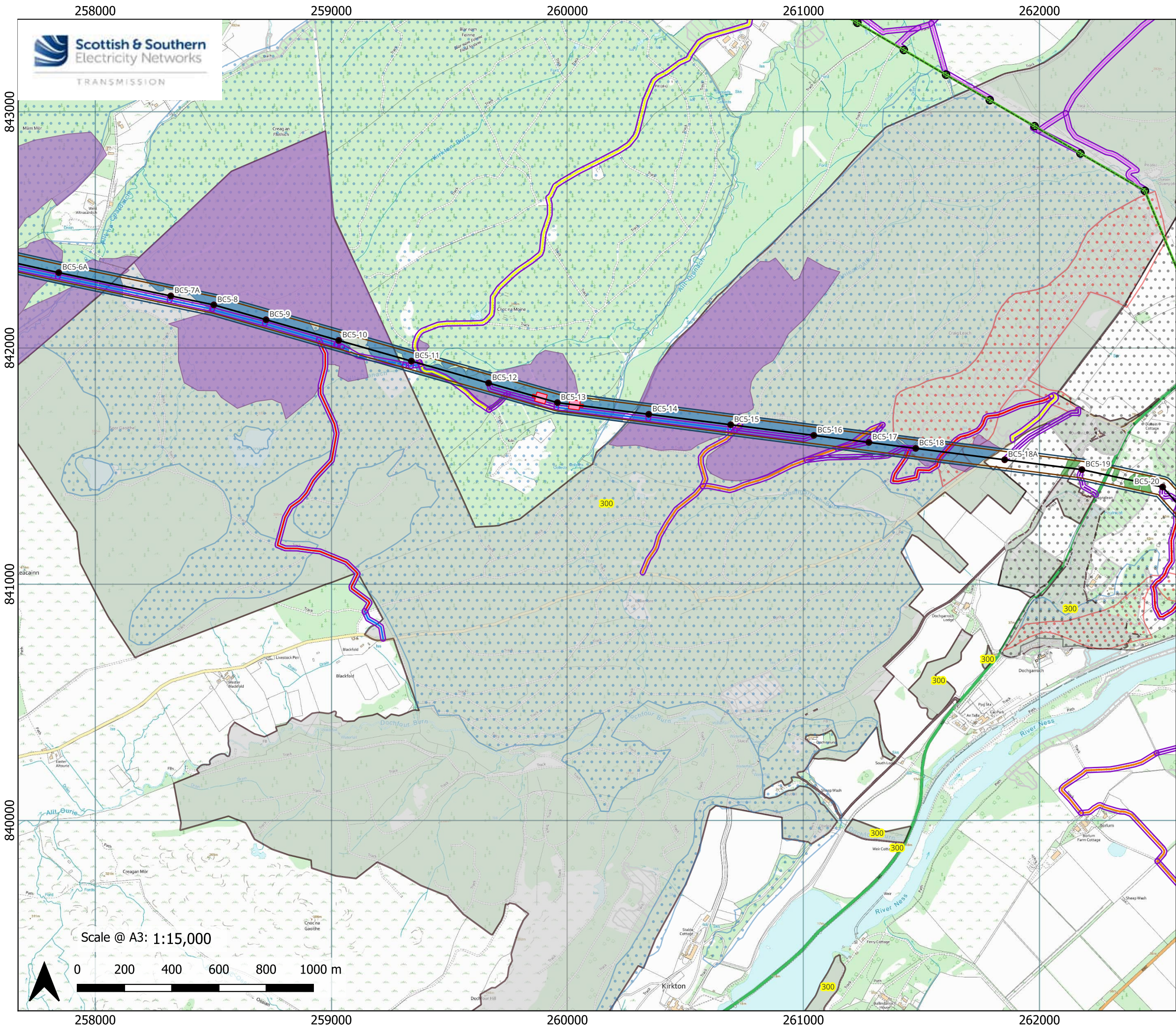
- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- ▭ Landownership Boundary/Parcel

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Project:
Beaulieu to Blackhilllock to New Deer to Peterhead 400 kV OHL Project

Title:
Figure 12.1.21a Parcel 300 Location Map

Drawn by: LA



Legend

- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- Proposed Conductor Pulling Area (EPZ)
- Tower to be Removed
- OHL to be Removed
- 70m Operational Corridor - Broadleaved Woodland
- 90m Operational Corridor - Commercial Woodland
- Access Track 20m Buffer

Proposed Access Tracks

- Existing Access – Upgrade – Good/Fair Condition
- Existing Access – Upgrade – Poor Condition
- Existing Access – Upgrade – Very Poor Condition
- Proposed Access – ATV or Temporary Trackway
- Proposed Access – Permanent
- Proposed Access – Permanent Floated
- Proposed Access – Temporary
- Proposed Access – Temporary Floated

Proposed Felling Requirements

- Native Woodland Operational Corridor Felling
- Mixed Conifer Operational Corridor Felling
- Mixed Conifer Management Felling
- Mixed Conifer Access Track Felling
- Site of Special Scientific Interest (SSSI)
- Native Woodland Survey Scotland (NWSS)

Ancient Woodland Inventory

- Ancient (of semi-natural origin)
- Long-Established (of plantation origin)
- Landownership Boundary/Parcel

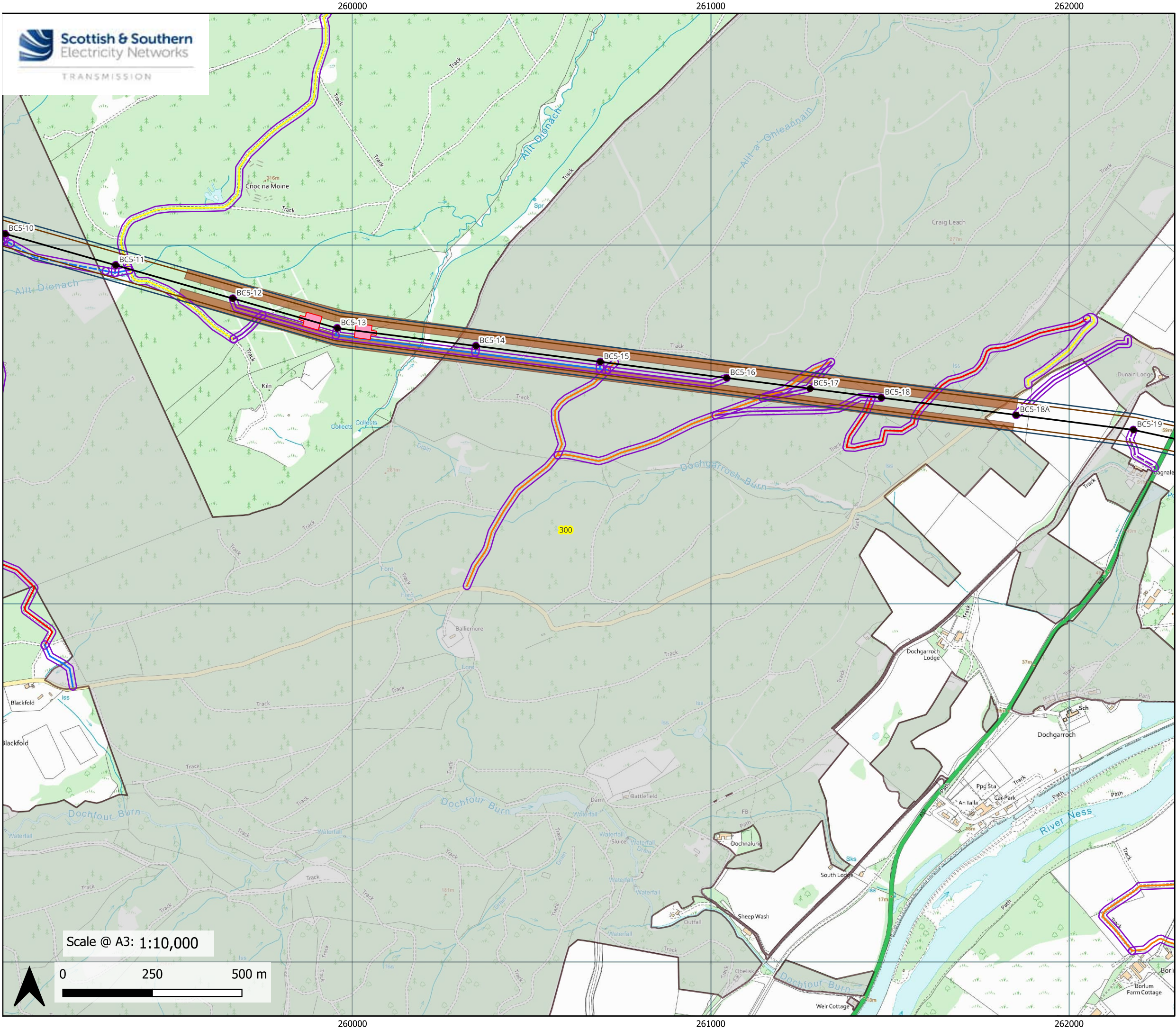
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Project:
Beauly to Blackhillock to New Deer to Peterhead 400 kV OHL Project

Title: Figure 12.1.21b Parcel 300 Proposed Felling Requirements

Drawn by: LA



Legend

- Proposed Tower - 400 kV
- Proposed OHL Alignment - 400 kV
- Proposed Conductor Pulling Area (EPZ)
- 70m Operational Corridor - Broadleaved Woodland
- 90m Operational Corridor - Commercial Woodland
- Access Track 20m Buffer

Proposed Access Tracks

- Existing Access – Upgrade – Good/Fair Condition
- Existing Access – Upgrade – Poor Condition
- Existing Access – Upgrade – Very Poor Condition
- Proposed Access – Permanent
- Proposed Access – Permanent Floated
- Proposed Access – Temporary
- Proposed Access – Temporary Floated
- Landownership Boundary/Parcel
(Landownership boundary extends beyond map extent – relevant area shown)
- Forest Edge Planting Locations

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Project:
Beauly to Blackhilllock to New Deer to Peterhead 400 kV OHL Project

Title:
Figure 12.1.21c Parcel 300 Proposed Planting Areas

Drawn by: LA