Fanellan Hub 400 kV Substation and Converter Station

Environmental Impact Assessment Report

Volume 2 | EIA Report

Chapter 15 - Forestry

February 2025

Contents

OTHER VOLUMES

15. FORESTRY

15.1 Introduction

15.1.1 This chapter assesses the potential effects of the Proposed Development, as described in section 15.3.2 on forestry operations. The chapter sets out the baseline conditions, identifies sensitive receptors and considers the potential effects associated with the construction and operation of the Proposed Development. Forestry impacts resulting from associated works at the Black Bridge are assessed **in Volume 3: Appendix 3.2 Review of Black Bridge Works.**

15.1.2 The specific objectives of this chapter are to:

- describe the assessment methodology and significance criteria applied to this assessment;
- describe the relevant baseline conditions and identify important arboriculture and forestry features;
- assess the potential significant effects on important arboriculture and forestry features;
- describe the additional measures proposed to address likely significant effects and meet legal obligations; and
- describe any significant residual effects.

15.2 Legislative Framework, Policy, and Guidance

15.2.1 This chapter has been compiled with reference to the following legislation, policy, standards and guidance:

- Town and Country Planning (Scotland) Act 1997 (as amended)[1];
- The Town and Country Planning (Tree Preservation Order and Trees in Conservation Areas) (Scotland) Regulations 2010[2];
- National Planning Framework 4 (NPF4), published February 2023[3];
- Highland Council Trees, Woodlands and Development supplementary guidance, adopted January 2023[4];
- British Standards Institution. BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations. London: BSI[5];
- Scotland's Forestry Strategy 2019 to 2029[6];

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1 UK Government (2017). The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Available at: https://www.legislation.gov.uk/ssi/2017/102/contents

2 UK Government (2010). The Town and Country Planning (Tree Preservation Order and Trees in Conservation Areas) (Scotland) Regulations 2010. Available at: https://www.legislation.gov.uk/ssi/2010/434/contents/made

3 Scottish Government (2023). Fourth National Planning Framework 2023. Available at: https://www.gov.scot/publications/national-planning-framework-4/pages/3/

4 The Highland Council will consider the impact on trees and woodland as a key material consideration. Any proposed tree removal or retentions should be submitted for consideration as part of any planning application. The effects of trees on development and of development on trees must be fully considered within an Arboricultural Impact Assessment. Available at: https://www.highland.gov.uk/downloads/file/354/trees_woodlands_and_development_supplementary_guidance

5 BSI (2024). BS 5837 Trees in relation to design, demolition and construction – Code of Practice. Available at: https://standardsdevelopment.bsigroup.com/projects/9022-07743#/section

6 Scottish Government (2019). Scotland's Forestry Strategy 2019 – 2019. Available at: https://www.gov.scot/publications/scotlands-forestry-strategy-20192029/

- Scottish Government's policy on control of woodland removal: implementation guidance, published February 2019[7]; and
- UK Forestry Standard[8].

15.3 Assessment Methodology and Significance Criteria

15.3.1 This Forestry chapter includes the arboricultural assessment results of all trees and tree groups within the Study Area as well as an assessment of forestry resource. For the purposes of this chapter, forestry can be defined as commercial forestry or woodlands that are actively managed for their environmental, social and/or economic functions. Arboriculture and forestry assessments are separated by subheadings throughout the chapter.

15.3.2 This EIA Chapter considers both arboriculture and forestry impacts from the Proposed Development (including ancillary construction works) in addition to potential impacts from the proposed diversion of the Beauly-Denny Overhead Line. A separate Environmental Appraisal (EA) is being prepared for this development (to support a Section 37 Consent application) however it has been deemed necessary to consider the full impact on arboriculture and forestry resource from tree removal within this EIA Chapter as tree removal associated with the OHL diversion is required to facilitate the Proposed Development. Tree removal would likely all be undertaken at the same time for both projects and as such this assessment addresses all tree removal activities associated with the Proposed Development and associated proposed development of Beauly Denny Overhead Line, providing transparency, and demonstrating compliance with regulatory requirements for assessing the full scope of environmental impacts

Arboriculture

15.3.3 The purpose of this EIA Chapter is to identify all trees which may be affected within the Study Area (as explained in paragraph 15.3.9) , to assess the impact upon those trees and to recommend such protection measures as are necessary to ensure the health of retained trees.

15.3.4 The scope and level of detail included within this chapter is commensurate with that required for the consideration of arboricultural features within the Study Area.

15.3.5 Arboricultural information provided complies with the requirements of British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS 5837), and includes reference to the following:

- results of a BS 5837 survey;
- an Arboricultural Impact Assessment (AIA); and
- an Outline Arboricultural Method Statement (AMS).

15.3.6 BS 5837 does not provide explicit parameters for measuring the sensitivity of an arboricultural feature nor does it provide a methodology for the classification of significant effects. However, it does provide guidance on how to assess the quality of an arboricultural feature and further recommends an evaluation of impacts, both direct and indirect. As such,

[7] The Proposed Development has taken cognisance of the Scottish Government's policy on control of woodland removal. In particular it acknowledges that there is a strong presumption against woodland removal and a particularly strong presumption against ancient woodland removal. As such, woodland removal will only be allowed where it would achieve significant and clearly defined additional public benefits.

[8] The Proposed Development has taken cognisance of the sustainable forestry principles as set out in the UK Forestry Standard.

this guidance has been used in combination with professional judgement to provide sensitivity and magnitude criteria to assess the significance of effects.

Forestry

15.3.7 This chapter will identify the impacts on all areas of forestry which may be affected within the Study Area and assess the impact on forestry operations, management and windthrow. There is no standardised approach to assessing impacts on forestry and as such, professional judgement will be used in combination with relevant industry guidance such as the UK Forestry Strategy, Scotland's Forestry Strategy 2019 to 2029 and the Scottish Government's Control of Woodland Removal Policy. Accordingly, the sensitivity and magnitude criteria to assess the significance of effects has been provided.

Methodology

Study Area

15.3.8 The Proposed Development is located in a rural area in the Highlands, approximately 5 kilometres south-west of Beauly (centred at National Grid Reference: NH 48835 42850). The extents of the 'Site' are shown by the red line boundary in **Appendix 15.2: Tree Removal and Protection Plan** which incorporates permanent and temporary design elements.

15.3.9 The arboricultural and forestry study area (hereafter referred to as 'Study Area') covers the extents of the Site (which includes the proposed diversion works for the Beauly-Denny OHL) plus up to a further 15 m. The purpose of this 15 m beyond the Site extents is to ensure compliance with BS 5837 which recommends that all arboricultural features whose Root Protection Areas (RPAs) and crowns may be impacted are identified and surveyed. BS 5837 has a maximum RPA radius of 15 m, hence the extent of the Study Area. Where windthrow impacts are deemed likely then the Study Area has been extended to the nearest windfirm edge, determined on site by the surveyor.

15.3.10 Trees located immediately east of unclassified U1604 road have not been included within this assessment as no works are proposed to the existing road and there is sufficient existing crown clearance over this section of road.

15.3.11 The Operational Corridor (OC) is defined with reference to the distance at which a tree could fall and cause damage to an overhead line, resulting in a supply outage. Trees are therefore removed within the OC to facilitate construction and ensure continued safe operation of the OHL.

15.3.12 The OC width that has been assessed and identified for the safe build and energisation of the proposed temporary and permanent OHL towers through areas of commercial conifer woodland is 90 m (45 m either side of the OHL centreline). This has taken cognisance of current tree height within the Study Area and potential growth within a five-year maintenance period.

15.3.13 The OC width that has been assessed and identified through areas of native broadleaved woodland is 60 m (30 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.

Desk Study

15.3.14 A desk study was undertaken in July 2024 to identify specific statutory and non-statutory constraints which may apply to arboricultural and forestry features within the Study Area.

15.3.15 The desk study review, as outlined in Appendix A, was undertaken to establish the following statutory and non-statutory arboricultural constraints:

- tree preservation orders;
- conservation areas;
- ancient woodland;
- native woodland;
- Caledonian pinewood;
- ancient or veteran trees; and
- forestry management plans, grants, and permissions.

15.3.16 Windthrow risk has been assessed using ForestGALES software[9] in combination with professional judgement to allow for a more thorough assessment of windthrow risk. These were used to assess the potential risk of windthrow in forest stands following the removal of trees as a result of the Proposed Development. The overturning of individual trees, a natural phenomenon, is not considered within this assessment.

Baseline Survey

15.3.17 The arboricultural and forestry survey of trees within the Study Area was undertaken between the 4th and 13th June 2024. Additionally, the survey of trees at the proposed Black Bridge works site was undertaken on 29th October 2024. These are reported in Volume 3: **Technical Appendix 3.2 Review of Black Bridge Works**. The arboriculture surveys were undertaken to comply with BS 5837.

15.3.18 The forestry surveys were undertaken alongside the arboriculture surveys and noted physical indications of forestry operations; criteria considered are presented in **Volume 3: Appendix 15.1, Survey Methodology**.

Impact Methodology

15.3.19 Arboricultural impacts are defined as arboricultural removals and identification of matters to be addressed within an AMS.

15.3.20 The Study Area was broken down into groups which contain numerous individual and grouped arboricultural features. These assessment areas were defined as the features which share generally similar developmental, morphological, and physiological characteristics. The arboricultural assessment areas are as follows:

- A: Individual trees and small groups within agricultural land.
- B: Deciduous or mixed woodlands within agricultural land.
- C: Forestry located at the western edge of the Study Area.
- D: Forestry located at the eastern edge of the Study Area.

[9] Forest Research (2024). Tool and Resource: ForestGALES. Available at: https://www.forestresearch.gov.uk/tools-and-resources/fthr/forestgales/

15.3.21 Forestry has been assessed against landowners to evaluate the extent of tree removal required on their properties, taking into account ownership boundaries, land management practices, and the potential economic and environmental impacts on each landowner. Using Scottish Forestry's Forestry Map Viewer[10] and consultation with SSEN Transmission's land team the following forestry landowner receptors have been identified:

- A: Lovat Highland Estates of Fanellan, Ruttle Wood and Bredaig
- B: Eilean Aigas Estates of Ruttle Wood

15.3.22 These arboriculture and forestry areas are assessed using sensitivity and magnitude criteria to determine the significance of effects. These assessment areas are shown on Figure 15.1: Arboriculture and Forestry Assessment Areas.

Sensitivity

15.3.23 A number of factors may be considered when applying sensitivity including the characteristics summarised in Table 15-1. A feature may portray a combination of characteristics from different sensitivity categories and professional judgement has been used to determine a feature's sensitivity.

[10] Scottish Forestry (n.d.) Scottish Forestry Map View. Available at: https://www.forestry.gov.scot/support-regulations/scottish-forestry-map-viewer

15.3.24

Table 15-1: Criteria for Sensitivity of Receptors on Arboriculture and Forestry

Sensitivity	Examples of Potential Characteristics
High	• Trees that are registered on the Ancient Tree Inventory or have been identified in the tree survey as veteran or ancient trees; • Trees that are within the Ancient Woodland Inventory, and the extent has been verified on site; and • Tree features that are within the Caledonian Pinewood Inventory boundary, and which their correspondence to the qualifying features has been verified on site.
Medium	• Trees that have been classified as Category 'A' in accordance with BS 5837: – Trees that are particularly good examples of their species, especially if rare or unusual, and are considered to have high arboricultural value; – Trees/woodlands of particular visual importance within the landscape; and – Trees that are essential components of groups, or of formal or semi-formal arboricultural features. • Trees/woodlands of particular conservation, historical, commemorative or other value; • Forests or woodlands that are a particularly good example of their type and are likely to include diverse, structured, semi-natural, and undisturbed ecosystems; • Forests or woodlands that exhibit high public usage; • Forests or woodlands with high commercial value or potential; and • Any woodland identified for protection within the Local Planning Authorities Forestry and Woodland Strategy.
Low	• Trees that have been classified as Category 'B' in accordance with BS 5837: – Trees due to impaired physiological or structural condition are downgraded from Category 'A'; – Trees lacking special quality; – Trees with limited conservation or other cultural value; and – Trees present in numbers, usually as groups or woodlands, such that they attract a higher collective rating than they might as individuals or trees occurring as collectives but situated so as to make little visual contribution to the wider locality. • Forests or woodlands with some high-quality characteristics but which might be disturbed or damaged e.g. from browsing pressure, windthrow or poor management; • Forest or woodlands lacking special characteristics to be considered high value; • Forests or woodlands with limited public usage; and • Forests or woodland with limited commercial value or potential.

Sensitivity	Examples of Potential Characteristics
Negligible	• Trees that have been classified as Category 'C' or Category 'U' in accordance with BS 5837: – Trees that are of low arboricultural value including unremarkable trees of very limited merit; – low or transient landscape benefits; – no material conservation or other cultural value; and – Young trees less than 150 mm in stem diameter. • Trees of very low quality which have poor structural and/or physiological condition and are not likely to be retained for more than 10 years in the current context; and • Woodlands in poor condition, poorly adapted to soils and/or climate, or significantly affected by pests, diseases or other abiotic factors

Magnitude

15.3.25 The complex, multi-faceted nature of forestry means there is no standardised approach to assessing the impacts. As such, professional judgement is used in consideration of the potential impact descriptions as shown in Table 15-2 below, to determine magnitude of impact on features. Impacts are negative and permanent unless otherwise stated.

Table 15-2: Criteria for Magnitude of Impacts on Arboriculture and Forestry

Magnitude of Impact	Description of Potential Impact
High	A noticeable change to the tree population over a wide area or an intensive change over a limited area.
Medium	Small changes to the tree population over a wide area or noticeable change over a limited area.
Low	Very small changes to the tree population over a wide area or small changes over a limited area.
Negligible	No discernible change to the tree population.

Significance of Effects

15.3.26 The overall significance of effects was determined considering sensitivity and magnitude criteria as set out in Table 15-3 below. For the purposes of this assessment any impact of Moderate and above is considered significant. Impacts are considered adverse and permanent, unless otherwise stated.

Table 15-3: Significance of Effects Criteria

		Sensitivity of Receptor/Receiving Environment to Change/Effect			
		High	Medium	Low	Negligible
Magnitude of Change / Effect	High	**Major**	**Major**	**Moderate**	Negligible
	Medium	**Major**	**Moderate**	Minor	Negligible
	Low	**Moderate**	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

Limitations

15.3.27 Provisional Tree Preservation Orders (TPOs) may be made whenever a local planning authority deems it appropriate with only those persons interested in the land served with a copy of the Order. Any reference to the presence of TPOs is only valid on the date at which the desk study search was undertaken. In instances where works unspecified in this chapter are to be undertaken, and which may impact trees, a further search for the presence of TPOs should be carried out prior to commencement.

15.3.28 Trees are dynamic organisms which are influenced by a variety of environmental variables and whose health and condition can rapidly change. Any recommendations made within this chapter are valid for a period of 24 months from the date of survey, when any site conditions change or pruning or other works unspecified in the chapter are carried out to, or affecting, the subject trees, whichever is the sooner.

15.3.29 This chapter does not constitute a health and safety survey. Where concerns for tree health and safety exist then necessary and appropriate tree inspections should be carried out.

15.3.30 Assessment of statutory and non-statutory constraints have been carried out using publicly accessible third-party information.

15.3.31 Topographical data was not available at the time of surveying and as such the position of arboricultural features has been estimated using aerial photography and on-site Global Positioning System (GPS). The position and extent of these features is therefore approximate.

15.3.32 Land access was restricted from a number of areas due to livestock, topography and thick vegetation. Tree features and forestry in these areas have been estimated from a distance using a monocular.

15.3.33 Forest management plans are not publicly available and so have not been reviewed. As such, assumptions have been made of the management practices through use of available resources including a desk stop study and walkover survey.

15.3.34 Impacts on commercial forestry operations have been assessed at a high level; timber volume and value, using mensuration calculations, has not been provided. This aligns with that set out in the scoping report and confirmed in the scoping opinion from

The Highland Council (THC). Where deemed appropriate, this detailed assessment should be carried out by the forest manager to determine suitable compensation.

15.4 Baseline Conditions

General Site Description

15.4.1 The Study Area is predominantly agricultural land with pockets of deciduous woodland and individually scattered tree groups. The western and eastern peripheries of the Study Area are located along edges of large blocks of forestry.

15.4.2 The topography of the Study Area is generally undulating.

15.4.3 A minor road, which serves as access to individual settlements within the valley, and rough agricultural tracks is located within the Study Area.

Arboriculture

15.4.4 Using Table 1 and the findings within this section, sensitivity has been allocated to each of the arboricultural assessment areas:

- A: Individual trees and small groups within agricultural land, of Medium sensitivity
- B: Deciduous or mixed woodlands within agricultural land, of High sensitivity
- C: Forestry located at the western edge of the Study Area, of Low sensitivity
- D: Forestry located at the eastern edge of the Study Area, of Low sensitivity

15.4.5 These assessment areas are shown on Figure 15.1: Arboriculture and Forestry Assessment Areas.

Desk Study Findings

15.4.6 The desk study found no TPOs nor conservation areas within the Study Area. The desk study found no registered records of ancient or veteran trees within the Study Area. Woodland registered on the Ancient Woodland (Scotland) Inventory as ancient woodland long established of plantation origin (Category 2b), was located throughout the Study Area, covering the areas of forestry at the west and east and blocks of woodland to the north-east. Ancient woodland is shown in **Volume 3: Appendix 15.2 Tree Removal and Protection Plan ('TRPP')** .

15.4.7 Native woodland registered as 'native pinewood' 'upland birchwood' and 'wet woodland' on the Native Woodland Survey of Scotland was located throughout the Study Area. No Caledonian Pinewood was registered within the Study Area.

Arboricultural Survey Findings

15.4.8 An arboricultural survey schedule detailing information about trees in the Study Area is presented in **Volume 3: Appendix 15.3 Tree Survey Schedule**. Table 15-4 summarises the number of trees surveyed and their tree quality categories. The locations of arboricultural features are shown on the TRPP of **Appendix 15.2**.

Table 15-4: Summary of Tree Quality Categories

BS 5837 Category	Quality	Individual Trees	Groups	Totals
Category A	High	10	7	**17**

BS 5837 Category	Quality	Individual Trees	Groups	Totals
Category B	Moderate	50	47	**97**
Category C	Low	24	29	**53**
Category U	Very Low	6	1	**7**
Totals		**90**	**84**	**174**

15.4.9 The majority of features located within the Study Area were of moderate quality (56 %), with approximately 10 % of the features of high quality, 30 % of low quality and 4 % of very low quality.

15.4.10 All high quality features were deciduous trees or groups, except two individual high-quality Scots pine. They were spread throughout the Study Area and consisted of individual trees, lapsed coppices and hedgerows, and woodlands. There were three veteran trees within the Study Area, located to the South-West, within the woodland G77. These consisted of a rowan (T78), a silver birch (T79), and a birch cherry (T80), and they each displayed multiple veteran characteristics including large girth (indicating advanced age), deadwood, decay cavities, epiphytes, fungal fruiting bodies and lichens.

15.4.11 Moderate quality features predominantly consisted of early mature to mature trees, groups and woodlands. Oak trees, or groups of trees containing oak, comprises approximately 62 % of total features. Birch was also a predominant species comprising approximately 29 % of moderate quality trees or groups. Other deciduous and coniferous species were prevalent including beech, rowan, goat willow, Sitka spruce, and Scots pine. The majority of woodland was recorded as moderate quality groups and were predominantly deciduous in nature although some coniferous plantations were located around the edges of the Study Area and beyond.

15.4.12 Low quality features were mostly similar in nature to moderate quality features, but of a younger age. Mature features of low quality were trees or groups of trees with observed physiological or structural defects.

15.4.13 A large proportion of features to the north and around the peripherals of the Study Area, were located within ancient woodland long established of plantation origin (Category 2b) as stated in Section 15.4.5. There were some constraints and pressures facing the ancient woodland including a field layer of bracken (*Pteridium aquilinum*) that may inhibit establishment of seedlings and electrical and road infrastructure, and that may restrict the expansion and growth of woodland through facilitative pruning and removal.

Forestry

15.4.14 Using Table 1 and the findings below, sensitivity has been allocated to both of the forestry assessment areas:

- A: Lovat Highland Estates of Fanellan, Ruttle Wood and Bredaig, of Low sensitivity.
- B: Eilean Aigas Estates of Ruttle Wood, of Medium sensitivity.
-

15.4.15 As mentioned in paragraph 15.3.31, forest management plans were not available for review. As such, assumptions have been made of the management practices through use of available resources including a desk study and walkover survey. These assessment areas are shown on Figure 15.1: Arboriculture and Forestry Assessment Areas.

Desk Study Findings

15.4.16 According to the Scottish Forestry map viewer, forestry is an important land use in the Study Area and sensitive receptors are present. The forests mapped in the Study Area (which are predominantly ancient) have been subject to various felling applications, woodland grant schemes, and management plans. It appears there are at least two forest management plans active currently in the Study Area with forestry predominantly managed by Lovat Highland Estates and Eilean Aigas Estate.

15.4.17 Forestry managed by Lovat Highland Estates within the Study Area is predominantly Low Impact Silviculture System (LISS). Forestry managed by Eilean Aigas Estate has had thinning applications within the Study Area, suggesting it is managed for commercial crop - although whether the forestry edges located within the Study Area is proposed for continuous cover forestry is unknown but possible.

15.4.18 A 10 Hectare (Ha) young woodland at Bredaig is subject to a Scottish Rural Development Programme woodland creation planting grant. The manager of this forestry is Lovat Highland Estates.

Forestry Survey Findings

15.4.19 Within the two large, forested areas, Ruttle Wood and Fanellan Wood, 22 individual forest coupes or woodlands have been identified. The majority of coupes within Ruttle Wood were mid to late rotation and coniferous plantation including Scots pine, Sitka spruce, European larch and Norway spruce. Forestry coupes within Fanellan Wood were predominantly mature, deciduous woodland and less uniform in nature. In addition, historic felling of both Ruttle Wood and Fanellan Wood has been undertaken to permit overhead lines.

15.4.20 A forestry track was observed connecting coupes within Ruttle Wood. No areas of windthrow were observed within the Study Area. Most coupes within the Study Area had a dense field layer of bracken. No significant impacts from pests and diseases were observed within coupes.

15.5 Future Baseline

15.5.1 In general, for the majority of groups, low levels of natural regeneration were observed. With the presence of bracken and its naturally aggressive self-propagating nature, natural regeneration may be increasingly constrained in the future.

15.5.2 The impacts of climate change on forestry in Scotland are hard to predict. It may allow for increased productivity and wider species selection in some areas but increased susceptibility to pests, diseases, drought and wind damage in others. As such, climate change's impact on future baseline is not fully known.

15.5.3 Changes to the forestry composition, such as clear felling and replanting, is likely in the south-west of the Study Area within Ruttle Wood plantation coupes where thinning activities

have been active. Wide-scale changes in forestry composition is unlikely in the remainder of the Study Area.

15.5.4 The majority of planning development applications listed on the Highland Council Planning – Map Search portal[11] within the Study Area as of December 2024 are in relation to electrical infrastructure developments which are unlikely to require significant tree removal within the Study Area. Third party developments are unlikely to affect future baseline given the location of trees. Future substation improvement and operational works and the proposed new OHLs that will connect to the Proposed Development are likely to require the removal of trees within the Study Area. These include the proposed 400kV Spittal-Loch Buidhe - Beauly (SLBB) Overhead Line (OHL) which will connect to the north-west of the site and require tree removal within Ruttle Wood and the proposed 400kV Beauly-Blackhillock- New Deer – Peterhead (BBNP) OHL which will connect to the south-east and require tree removal within Fanellan Wood. The list of cumulative developments can be found in **Chapter 5- EIA Process and Methodology**, **Table 5.2.**

15.6 Impact Assessment

Limitations and Assumptions

15.6.1 The impact assessment has been compiled based on the following:

- All construction activities will be confined within the red line boundary of the Proposed Development.
- No access or tree removal on third party land outside the RLB will be required to facilitate the Proposed Development.
- Topographical data was not available at the time of writing as such the position of arboricultural features has been estimated using aerial photography and on-site Global Positioning System (GPS). Therefore locations of features are indicative with up to ~5m accuracy.
- The impact assessment has been based on the design as shown on the TRPP at **Appendix 15.2** and the temporary construction information shown on Figure 3.1: Proposed Development.
- No forestry management plans have been made available and so assumptions have been made regarding management, value and objectives.
- An Operational Corridor of 60 m (30 m either side) from the proposed OHL diversion is assessed where it traverses deciduous woodland.
- An Operational Corridor of 90 m (45 m either side) from the proposed OHL diversion is assessed where it traverses coniferous plantation.

Arboriculture

Scope of Assessment

15.6.2 The scope of this assessment has been established with reference to BS 5837. The scope of assessment is to evaluate the effects of the Proposed Development and OHL diversion on arboricultural features and where necessary recommend mitigation.

15.6.3 The assessment includes specific reference to the effects of tree loss and other potentially damaging activities which could foreseeably occur in the vicinity of retained trees. Further

[11] The Highland Council (2024). Planning permission. Available at: https://www.highland.gov.uk/info/180/planning_-_applications_warrants_and_certificates/143/planning_permission/4

reference is made concerning recommendations for mitigation, including those matters which require inclusion within an AMS.

Arboricultural Features to be Removed

15.6.4 The Proposed Development and OHL Diversion in relation to arboricultural features is shown in the TRPP of **Appendix 15.2**. The Developments would require 47 features to be removed or partially removed, representing approximately 27 % of the total surveyed features. A summary of tree removals is provided in Table 15-5 below.

Table 15-5: Summary of tree removals

BS 5837 Category	Quality	Individual Trees	Groups	Partial Groups	Total
Category A	High	3	1	0	4
Category B	Moderate	14	6	10	30
Category C	Low	2	6	3	11
Category U	Very Low	1	1	0	2
Total	-	20	14	13	47

15.6.5 Four high quality features, comprising 8 % of total removals, would require removal to facilitate the Proposed Development and OHL Diversion. These features include two mature oaks (T50 and T149), one mature Scots pine (T32) and one group containing mature oak (G24). The designs were refined in numerous locations to reduce the tree loss from 53 to 45 features to be removed. This included reducing the removal of high quality features from nine to four, and allowed the retention of the three veteran trees. The majority of anticipated tree removals are of moderate quality, comprising approximately 65 % of total removals. The majority of these are early mature to mature oak trees or groups containing oaks. Approximately a third of these removals are required within large woodlands or forestry coupes.

15.6.6 Low quality features represent approximately 23 % of total removals. The majority of these are early mature deciduous species including willow, birch and sycamore.

15.6.7 Two very low quality features, approximately 4 % of totals, are anticipated for removal. Both trees are of poor physiological condition.

15.6.8 The anticipated tree removals represent a total loss (or partial loss) of approximately 27 % of arboricultural features within the Study Area.

15.6.9 14 features anticipated for removal or partial removal are identified on the Ancient Woodland Inventory as ancient woodland long established of plantation origin (Category 2b). These are: G14, G15, G16, G17, G24, G25, G26, G27, G35, G38, G61, G65, G66, G77 and G158.

15.6.10 The majority of anticipated removals are contained within risk assessment areas A, individual trees and small groups within agricultural land and B, deciduous or mixed woodland within agricultural land. A noticeable proportion of ancient woodland (LEPO Category 2b) in the Study Area and within risk assessment area B, would be

permanently lost. Approximately 5.5ha out of a total 18.7ha of woodland within risk assessment B would require removal.

Other Arboricultural Impacts

15.6.11 Other identified arboricultural impacts associated with the construction of the Proposed Scheme are recorded in Table 6. Other arboricultural impacts are activities which although not requiring the direct removal of the tree, have the potential, if uncontrolled, to cause damage to retained arboricultural features.

15.6.12 Table 15-6 provides details of the potentially affected arboricultural features which would be retained during construction and the measures required to ensure their protection. Implementation of the recommended mitigatory measures should be sufficient to ensure that arboricultural features can be retained without significant loss of value or a notable reduction in health or longevity.

Table 15-6: Other Arboricultural Impacts and Mitigation Measures

Feature	Cause of Impact	Potential Impact	Mitigatory Measures
All retained features including trees remaining in partially removed groups	Construction of earthworks and contractor spatial working requirements during construction (above and below ground).	Soil compaction and root damage. Injurious contact with above ground elements of retained trees. Loss of vitality and decline in health. Reduction in quality of trees / potential death of trees.	Where possible, establish a Construction Exclusion Zone (CEZ) around retained trees RPAs for duration of construction as outlined in an AMS. CEZ to be established around canopy if this is larger. Indicative areas of protective fencing for retained features are shown on the TRPP in **Volume 4, Appendix 15.2**. Where full exclusion is not feasible, other special measures may be considered, where practicable, which may include one or a combination of the following: design refinements to avoid or reduce encroachment, micro-siting, hand digging and 'no dig' solutions such as geocellular ground protection, and protective fencing. Areas of special measures are shown on the TRPP in

Feature	Cause of Impact	Potential Impact	Mitigatory Measures
			Volume 4, Appendix 15.2. It should be noted that it may not be deemed necessary or proportionate to provide protective fencing around all retained features (e.g. trees suitably distanced from works) and the application of which will be at the discretion of the Arboricultural Clerk of Works (ArbCoW). Where works within an RPA are required, or where pruning is required, supervision to be conducted by ArbCoW and any additional recommendations to be followed.
Veteran trees T78, T79 and T80.	Diversion of OHL	Facilitative pruning of above ground elements of veteran trees. Loss of vitality and decline in health. Reduction in quality of trees / potential death of trees.	Removal of the veteran trees within the OC of the temporary OHL is not required.. These trees are to be recorded as site assets and any pruning required will be undertaken only once a management plan has been developed for these trees. The Applicant is responsible for ensuring the management plan is developed by an arboriculturist and makes specific mitigation and best practice recommendations in order to protect the health of trees. The management plan should be approved by

Feature	Cause of Impact	Potential Impact	Mitigatory Measures
			the local authority in advance of works.

Forestry

15.6.13 The Proposed Development and OHL Diversion is anticipated to result in the removal of approximately 7.09 ha of forestry. This represents approximately one quarter of the forestry within the Study Area. Forestry assessment areas are shown on **Volume 3, Figure 15.1: Arboriculture and Forestry Assessment Areas.**

15.6.14 4.56 ha of removal is expected from forestry risk assessment area A, Lovat Highland Estates of Fanellan and Ruttle Wood. The Proposed Development and OHL Diversion would require the removal of trees and so impact the commercial viability of the woodlands. Given the species mix, non-uniform nature and management as LISS, anticipated removal of trees is not likely to significantly affect overall management objectives of the forestry resource.

15.6.15 2.12 ha of removal is expected from forestry risk assessment area B, Eilean Aigas Estates of Ruttle Wood. The Proposed Development would require the removal of trees and so impact the commercial viability of the woodland. Given the uniform nature and assumed commercial crop, anticipated removal of trees from forestry coupes may affect management objectives. For example, the forest manager may decide it necessary to remove the remainder of forestry coupes at the same time as removal required to facilitate the Proposed Development and OHL Diversion. However, given the size of affected coupes and scale of forestry resource, the impact on overall management objectives is not deemed significant.

15.6.16 ForestGALES has provided a Wind Damage Risk Status (WDRS) for each forest which measures the potential risk of either overturning or stem breakage from creation of a new exposed brown edge in the forest. For all groups that are removed in part, ForestGALES concluded a low risk of windthrow for the remaining trees. This is supported by professional judgement by which it was observed that the woodlands as a whole, as well as individual trees within, were windfirm.

15.7 Assessment of Likely Significant Effects

Arboriculture

15.7.1 Arboriculture assessment area A, individual trees and small groups within agricultural land, is of Medium sensitivity. Given the anticipated intensive change within half of the Study Area, a Medium magnitude of impact equating to a **Moderate** significant effect is anticipated.

15.7.2 Arboriculture assessment area B, deciduous or mixed woodlands within agricultural land, is of High sensitivity. Given the anticipated noticeable removal of woodland over a wider area, a Medium magnitude of impact equating to a **Major** significant effect is anticipated.

15.7.3 Arboriculture assessment area C, forestry located at the western edge of the Study Area, is of Low sensitivity. Given the anticipated minor change over a wide area, a Low magnitude of impact equating to a **Minor** significant effect is anticipated.

15.7.4 Arboriculture assessment area D, forestry located at the eastern edge of the Study Area, is of Low sensitivity. Given that no tree removal is anticipated, a Negligible magnitude of impact equating to a **Negligible** significant effect is anticipated.

Forestry

15.7.5 Forestry assessment area A, Lovat Highland Estates of Fanellan and Ruttle Wood, is of Low sensitivity. Given the small proportion of overall forestry resource to be removed, a Low magnitude of impact equating to a **Minor** significant impact is anticipated.

15.7.6 Forestry assessment area B, Eilan Aigas Estates of Ruttle Wood, is of Medium Sensitivity. Given the limited changes to the edges of forestry coupes, a Low magnitude of impact equating to a **Minor** significant effect is anticipated.

15.8 Cumulative Effects

15.8.1 Since no known active forestry operations are within the Study Area, and other planning development applications are deemed unlikely to require noticeable tree removal within the Study Areal, no cumulative effects on arboriculture or forestry are anticipated. When considering the cumulative effects of other inter-related developments (as defined in **Volume 2, Chapter 5: EIA Methodology, table 5-2**) that interact with the Proposed Development or are associated with it (e.g. Black Bridge works), there is not currently enough information available on tree removals required to facilitate these developments to fully assess cumulative effects on arboriculture. However, given the anticipated scale and size of thee proposed development, the cumulative impact is not considered to be greater than the effects presented for the proposed development alone.

15.9 Mitigation

Arboricultural Method Statement

15.9.1 An outline Arboricultural Method Statement (AMS) is included in **Volume 3: Appendix 15.4**. The AMS adopts a precautionary approach to tree protection and addresses activities which have the potential to cause damage to retained trees.

15.9.2 The AMS addresses, in principle, the following matters which are of relevance to the Proposed Development:

- arboricultural site supervision;
- tree protection fencing;
- additional precautions outside the CEZ; and
- Installation of underground apparatus and service runs.

15.9.3 It is recommended that this AMS be viewed as a ‘living document’. It should therefore be reviewed, and if necessary, updated at the following stages of design and construction:

- Detailed design and discharge of conditions or reserved matters;
- Contractor engagement;
- Pre-commencement; and
- Prior to any instance where the site clearance or construction methodology is amended.

Compensation Planting

15.9.4 Tree loss would be compensated through the implementation of a landscape design including new tree planting on site as shown in **the Outline Habitat and Landscape Mitigation Plan** which is provided with this EIAR and offsite compensatory planting as detailed in the Compensatory Planting Strategy which is provided as a supporting document to the EIA.

Table 15-7 Compensatory Planting

Woodland Type			
	Predominantly native woodland (Hectares)	Productive forestry (Hectares)	Total area (ha)
Felled area	3.76	3.33	7.09
Onsite planting	6.83	-	6.83
Offsite planting	1		1
Net woodland loss / gain[12]	4.07+	3.33-	0.74-

Table 15-7 above shows the Proposed Development net woodland loss / gain in consideration of on-site planting. Given the ecological benefits native woodland promotes, it is not considered suitable to plant productive forestry as compensatory planting. Loss of productive forestry will be compensated with monetary value as defined by the District Valuer. As such, a net gain in native woodland and net loss in productive forest is deemed acceptable.

15.10 Residual Effects

15.10.1 As a result of mitigation specified in the AMS and shown on the TRPP employed during construction to retain trees, and with appropriate compensatory planting, the overall impact on arboriculture and forestry can be considered reduced.

15.10.2 Despite the proposed mitigation, tree loss cannot be avoided from arboriculture risk assessment area A, individual trees and small groups within agricultural land and risk assessment area B, deciduous or mixed woodlands within agricultural land. As such, the residual effects are unchanged and remain as **Moderate** significant effect for arboriculture risk assessment A and **Major** significant effect for arboriculture risk assessment area B.

15.10.3 No other significant residual effects are anticipated for arboriculture or forestry.

[12] At the time of writing, compensatory planting had not yet been assessed by Scottish Forestry under the Forestry EIA screening process, and so numbers in this report may be liable to change following consultation.

15.11 Summary and Conclusions

15.11.1 The arboricultural and forestry survey of trees within the Study Area was undertaken between the 04 and 13 June 2024. The arboricultural survey was undertaken in accordance with BS 5837 and features were plotted using aerial imagery and GPS.

15.11.2 The desk study confirmed no record of TPOs, conservation areas, or recorded ancient/veteran trees, within the arboricultural Study Area. Woodland registered on the Ancient Woodland (Scotland) Inventory as ancient woodland long established of plantation origin (Category 2b) were located throughout the Study Area, covering the areas of forestry at the west and east and blocks of woodland to the north-east.

15.11.3 The forests mapped in the Study Area have been subject to various felling applications, woodland grant schemes, and management plans. It appears there are two forest management plans active currently in the Study Area with forestry predominantly managed by Lovat Highland Estates and Eilean Aigas Estate.

15.11.4 A total of 174 arboricultural features were surveyed within the Study Area, consisting of 90 individual trees and 84 groups. Of these, 17 features were assessed as high quality, 97 of moderate quality, 53 of low quality and seven of very low quality. 22 forestry coupes were observed during the surveys with the majority of coupes within Ruttle Wood coniferous plantation and coupes within Fanellan Wood predominantly mature, deciduous woodland.

15.11.5 The arboricultural survey identified three veteran trees within the Study Area, located to the South-West, within the woodland G77. These consist of a rowan (T78), a silver birch (T79), and a birch cherry (T80).

15.11.6 The Proposed Development would result in the removal or partial removal of 47 features comprising the removal of 20 individual trees and 14 groups, and partial removal of 13 groups. Of these, four are of high quality, 30 of moderate quality, 11 of low quality and two of very low quality. The extent of potential tree loss is indicated on the TRPP in Appendix 15.2.

15.11.7 The Proposed Development design has been refined in areas to reduce tree loss where possible. This has allowed the removal of high quality features to be reduced from nine to four including avoidance of removal of the three veteran trees.

15.11.8 14 features anticipated for removal or partial removal are designated as ancient woodland (LEPO), totalling approximately 5.5ha loss.

15.11.9 The Proposed Development and OHL Diversion is anticipated to result in the removal of 7.09ha of forestry. This represents approximately one quarter of the forestry within the Study Area. Tree removals would not be considered to significantly impact any management or objectives of the woodland.

15.11.10 Despite the proposed mitigation, tree loss cannot be avoided from arboriculture risk assessment area A, individual trees and small groups within agricultural land and risk assessment area B, deciduous or mixed woodlands within agricultural land. As such, the residual effects are unchanged and remain as **Moderate** significant effect for arboriculture risk assessment A and **Major** significant effect for arboriculture risk assessment area B.

15.11.11 Tree loss would be compensated through the implementation of a landscape design including new tree planting as detailed within Chapter 8: Landscape and Visual and shown on Figure 8.11: Landscape and Ecological Mitigation Plan of the EIAR and offsite (See **Compensatory Planting Strategy** provided in support of this EIA).

15.11.12 All other arboricultural features can be retained and protected through construction if mitigation detailed in this chapter is adhered to. Locations of required mitigation are shown as special measure areas and tree protection fencing on the TRPP in Appendix 15.2. Principles for tree protection are set out in an outline AMS in Appendix 15.4 which includes the need for arboricultural supervision and tree protection fencing.