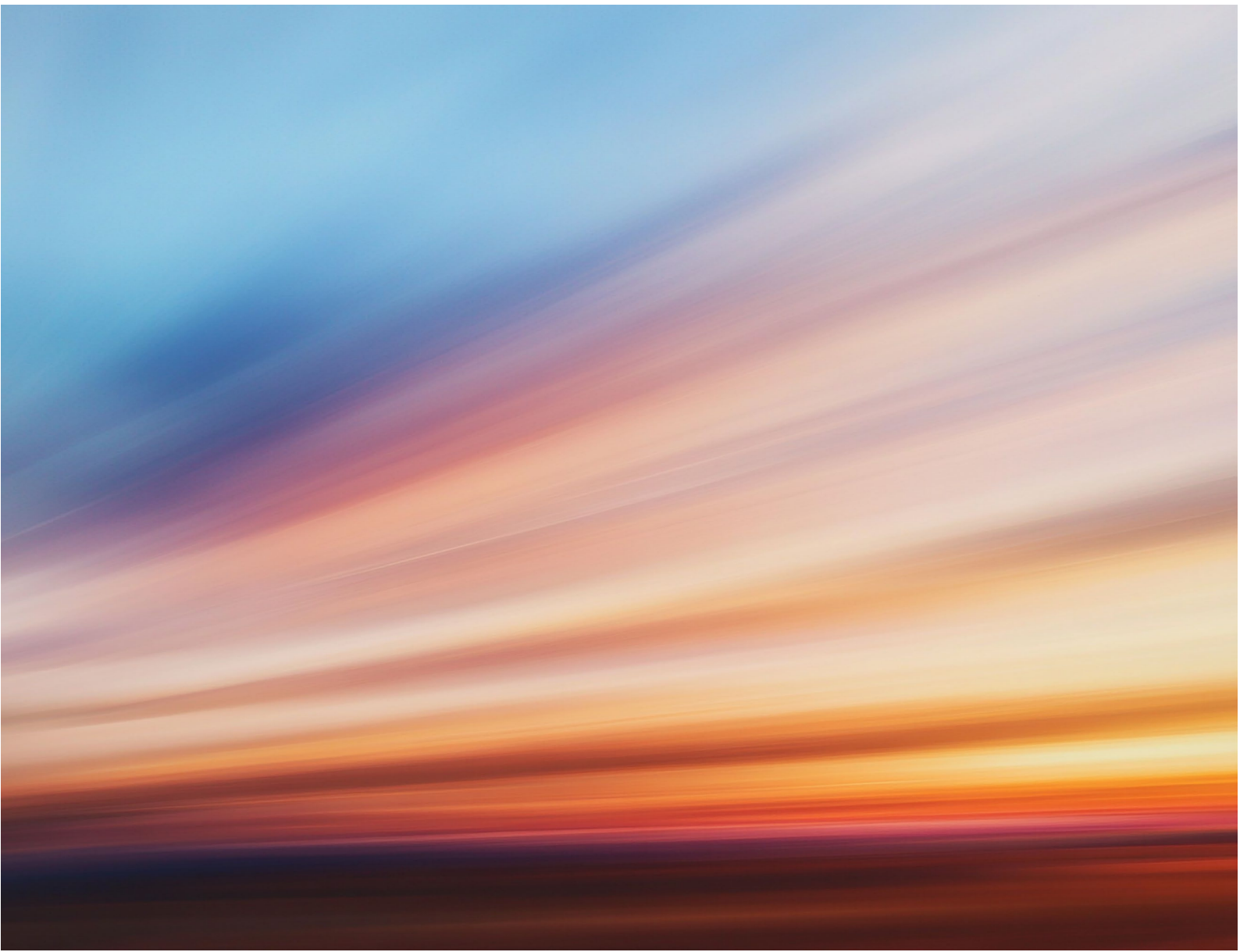


Loch Liath Wind Farm

Additional Information

Grid Connection Environmental Appraisal

June 2026



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1. Terminology

1.1.1 Throughout this document, the following terminology is used:

- Applicant: Loch Liath Wind Farm Limited.
- Indicative grid connection route: potential route of the grid connection that has been identified by the Applicant, informed by available desk based sources and professional judgement, and which is assessed within this document. The Applicant is *not* seeking consent for the grid connection.
- Environmental Appraisal: a proportionate environmental assessment of the indicative grid connection route as set out in this document.
- Loch Liath Wind Farm EIA Report: the EIA Report which accompanied the application to the Scottish Government Energy Consents Unit (ECU) for consent of the Proposed Development in April 2023.
- Proposed Development: Loch Liath Wind Farm as detailed and assessed in the Loch Liath Wind Farm EIA Report (April 2023) and for which the Applicant is seeking consent.
- Transmission Operator (TO): Scottish and Southern Energy Networks (SSEN) Transmission.
- Whole Project: the Proposed Development (i.e. Loch Liath Wind Farm as assessed in the Loch Liath Wind Farm EIA Report) together with the indicative grid connection route.

2. Introduction

2.1 Background

Loch Liath Wind Farm Project Background

- 2.1.1 The proposed Loch Liath Wind Farm (hereafter referred to as 'the Proposed Development') comprises up to 13 turbines and associated infrastructure located to the west of the Great Glen and Loch Ness, with the closest turbine being located approximately 13 km south-west of Drumnadrochit in the Highland Council region. The wind farm will consist of turbines at a mix of heights of up to 180 m and 200 m to blade tip.
- 2.1.2 The application for consent for the Proposed Development was submitted under S36 Electricity Act 1989 (S36) to the Scottish Government's Energy Consents Unit (ECU) in April 2023. Following receipt of feedback from consultees, including NatureScot, Supplementary Environmental Information (SEI) was submitted in November 2024, which provided further information on peat and an updated cumulative assessment.
- 2.1.3 The Highland Council objected to the project in February 2025 which resulted in a Public Local Inquiry (PLI) being heard by the Scottish Government's Planning and Environmental Appeals Division (DPEA) in November 2025. Determination of the application for the wind farm is currently 'on hold' pending the provision of further information on the grid connection, as set out within this document.

Grid Reform

Introduction

- 2.1.4 Through grid reform, National Energy Systems Operator (NESO) and the network partners (i.e. the Transmission Operators [TO], including SSEN) aim to achieve a refined grid queue of viable, real projects that would facilitate in achieving the UK Government's Clean Power 2030 ambitions and eliminate all projects that are unlikely to progress.
- 2.1.5 This is an important overhaul replacing the no longer fit for purpose first-come first-served grid connection processes with a "first ready, first needed and connected" approach. This will facilitate the TOs and NESO to plan and develop the transmission network that is vital for Clean Power and Net Zero targets amid growing energy demands.
- 2.1.6 Gate 2 to the Whole Queue (G2TWQ) is a one-time exercise which is currently being undertaken that intends to apply the new grid reform criteria retrospectively to all existing projects in the queue. Through the G2TWQ process, the TOs and NESO are restudying and/or optimising how the projects that remain in the refined queue will connect to the transmission network. As a result, the points of connection for most projects will be subject to change, with the aim of achieving the most economic and efficient design.

Grid Reform Gates

- 2.1.7** As part of G2TWQ process, projects are assessed and assigned a status (Gate 1 or Gate 2) based on their readiness and strategic alignment with the UK's energy goals as defined in the Clean Power 2030 Action Plan.
- Gate 1 applies to projects that do not meet the Gate 2 criteria. Gate 1 projects will not be assigned a confirmed connection date but may progress through future windows if readiness is demonstrated at a later date. These projects will be issued a Gate 1 offer.
 - Gate 2 applies to projects that meet the new requirements for readiness and strategic alignment. These projects will be offered a confirmed connection date, connection point, and queue position. These projects will be issued a Gate 2 offer.
- 2.1.8** All projects which currently have a live grid application will be allocated to Gate 1 or Gate 2. Projects allocated to Gate 1 will only be allowed to progress to Gate 2 subject to them re-applying in the future during specific "windows", the dates of which have not yet been confirmed, and meeting the Gate 2 criteria.
- 2.1.9** The Proposed Development has been allocated Gate 1, Protection 3a¹ and if consented, it is guaranteed a grid connection. This offer has now been accepted and signed by the project, making all previous grid offers/connection information null and void.
- 2.1.10** Following a S36 consent the Proposed Development will be required to re-apply at the next available Gate window for Gate 2 allocation. Only once Gate 2 allocation has been made will the TO (in this case SSEN) commence working on designing, consenting and constructing the grid connection.

The Proposed Development Grid Connection Status

- 2.1.11** Until the Proposed Development receives a Gate 2 Offer, the connection date, connection point and route connecting the Proposed Development to the grid network will not be known.
- 2.1.12** A potential connection point may be the Fasnakyle substation, or the recently consented Bingally 400kV substation². For the purposes of the supplementary information the most likely of these, in the opinion of the Applicant, has been considered - a potential connection route between Bingally substation and the Proposed Development³.
- 2.1.13** It is the TO's responsibility to design, consent, build and operate the grid connection from the wind farm to the transmission substation.

2.2 Document Purpose

- 2.2.1** In March 2026 the Scottish Government Reporters considering the application for consent for the Proposed Development issued a 'Procedure Notice' asking for further information in respect of the recent judgment: *Raeshaw Farms Limited v Scottish Ministers and Energiekontor UK Ltd* [2026] CSIH 10⁴ and how it relates to the Proposed Development.
- 2.2.2** In the Applicant's response to the Procedure Noted dated 1 April 2026, the Applicant acknowledges that a grid connection will be required from the Proposed Development to connect it to the national grid. Giving consideration to the '*Wingfield factors*⁵' and taking a precautionary approach, the Applicant considers that the wind farm and the grid connection could be considered to comprise one EIA project.

¹ Protection 3a applies for projects submitted into planning before 20 December 2024; the wind farm is guaranteed a Gate 2 offer in a future gated application window should the project achieve planning consent.

² [Bingally 400kV Substation - SSEN Transmission](#)

³ Currently the Transmission Entry Capacity (TEC) Register notes that there will be a direct connection effective from October 2035 between Loch Liath substation and the existing 275 kV Fasnakyle substation. However, the Transmission Owner Reinforcement Instruction (ToRI) register notes that there is potential for the Proposed Development to connect to the recently consented SSEN Bingally 400 kV substation located approximately 7 km west of Loch Liath Wind Farm. This is indicative at this stage and may be subject to change following Gate 2 Queue optimisation.

⁴ *Raeshaw Farms Ltd v Scottish Ministers and Energiekontor UK Ltd*, 17th February 2026.

⁵ The Wingfield factors are as follows:

- Common ownership: Where two sites are owned or promoted by the same person, this may indicate that they constitute a single project (*R (Larkfleet Ltd) v South Kesteven DC* [2015] EWCA Civ 887).
- Simultaneous determinations: Where two applications are considered and determined by the same committee on the same day and subject to reports which cross refer to one another, this may indicate that they constitute a single project (*R (Burridge) v Breckland DC* [2013] EWCA Civ 228).
- Functional interdependence: Where one part of a development could not function without another, this may indicate that they constitute a single project (*Burridge*).
- Stand-alone projects: Where a development is justified on its own merits and would be pursued independently of another development, this may indicate that it constitutes a single individual project that is not an integral part of a more substantial scheme (*Bowen-West v Secretary of State for Communities and Local Government* [2012] EWCA Civ 321).

Given that grid connection works were not considered in the Loch Liath Wind Farm EIA Report dated April 2023, further proportionate environmental assessment material is required to include such works.

- 2.2.3** Subsequent to the inquiry parties' exchanges in respect of the aforementioned judgment, the Reporters appointed by the Scottish Ministers have requested this additional environmental assessment material pursuant to Regulation 20(6) of the Electricity works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations'). This means that the material has been requested for the purposes of the PLI, and should be read alongside the Loch Liath Wind Farm EIA Report, SEI, and Additional Information submitted to inform the PLI⁶.
- 2.2.4** For the reasons set out above, the grid connection point and route are not currently known to the Applicant. However, a potential connection point is the recently consented Bingally 400kV substation, which is considered to have a reasonable prospect of being the ultimate connection point for the Proposed Development, in the opinion of the Applicant. This document provides a proportionate Environmental Appraisal of an indicative grid connection route from the Proposed Development to the consented Bingally substation, based on the information currently known, informed by available desk based data. This solus appraisal of the grid connection is included only to inform the in-combination assessment of the Whole Project; the Applicant is not seeking consent for the grid connection itself.
- 2.2.5** The grid connection route has been identified on the basis of professional judgement, having regard to the locations of connection points within a reasonable distance of the wind farm and with appropriate capacity, and considering the Holford Rules⁷. It is also based on knowledge of the TO's industry-standard approach to routing, and construction methodologies. It is expected that this would be comprised of a section of underground cable (UGC) with the majority of the route on an overhead line (OHL) supported on typical 'H' wood poles as detailed further below (see Image 1 and Image 2 below).
- 2.2.6** The identification and appraisal of the indicative route are provided only to support the assessment of the Whole Project in combination. For the avoidance of doubt, the Applicant is not seeking consent for this indicative grid connection route as part of the Proposed Development application; rather, this will be subject to its own separate routeing process, application for consent under Section 37 of the Electricity Act, and environmental survey and assessment as appropriate, by the TO in due course.
- 2.2.7** This assessment has been prepared on a precautionary basis. Firstly, on the basis that it assumes that both the Proposed Development and the cable route to the grid connection point comprise a single EIA project, in the absence of a position from the Scottish Ministers as to whether they consider these to be a single EIA project or two. Secondly, in that it considers the entirety of the defined EIA project on that basis and "*at the earliest possible stage in all the technical planning and decision-making processes*", as rehearsed as a requirement by reference to EU Directive 2011/92/EU in the *Raeshaw Farms Limited v Scottish Ministers and Energiekontor UK Ltd* [2026] CSIH 10 judgment.

2.3 Approach to the Assessment

- 2.3.1** This assessment identifies potential constraints and sensitivities within the selected indicative route to determine whether any likely significant effects are anticipated to arise, in accordance with the requirements of the EIA Regulations. It draws on detailed desk-based appraisals of relevant environmental topics, including existing information for the Loch Liath Wind Farm EIA Report, and a desk based review of constraints along the proposed route. It provides assessment in respect of the grid connection works on an individual basis, as well as assessment of the in-combination effects of the grid connection works and the wind farm (i.e. 'the Whole Project').
- 2.3.2** For the reasons set out above, there will necessarily be some limitations to the extent of assessment that can be carried out at this stage, given that it is not within the Applicant's gift to select the grid connection and, in turn, it would not therefore be proportionate to undertake detailed survey works to inform the assessment. The EIA Regulations expressly acknowledge that there may be circumstances where there are limitations to an EIA due to uncertainties and lack of knowledge.
- 2.3.3** Where such limitations exist, paragraph 6 of Schedule 4 of the EIA Regulations is clear that it is appropriate for the assessment material to include "*...details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved*".
- 2.3.4** Regulation 4(2) of the EIA Regulations also states that an environmental impact assessment is required to "*...identify, describe and assess in an appropriate manner, in light of the circumstances relating to the proposed development, the direct and indirect significant effects of the proposed development...*" (emphasis added).

⁶ Additional Information Volume 1: Updated Cumulative Landscape and Visual Impact Assessment and Volume 2a: Supporting Figures and Visualisations (Figures and Viewpoints 1-10) and Volume 2b: Supporting Figures and Visualisations (Viewpoints 11-20).

- 2.3.5** This report therefore includes details of assumptions and limitations relevant to the assessment at Section 3.

2.4 Document Structure

- 2.4.1** This document covers the following:

- An overview of the indicative grid route and connection point, and how the grid route has been identified.
- The Environmental Appraisal methodology.
- The Environmental Appraisal, including consideration of: landscape and visual amenity; ecology and ornithology; cultural heritage; hydrology, hydrogeology and peat; traffic and transport; noise; and socio-economics.
- A brief overview of cumulative effects of the grid route with other projects.
- Summary.

2.5 Reading Guide

- 2.5.1** This Environmental Appraisal should be read in conjunction with the following documents:

- Loch Liath Wind Farm EIA Report (April 2023);
- Loch Liath Wind Farm Supplementary Environmental Information (November 2024); and
- Loch Liath Wind Farm Additional Information Volume 1: Updated Cumulative Landscape and Visual Impact Assessment and Volume 2a: Supporting Figures and Visualisations (Figures and Viewpoints 1-10) and Volume 2b: Supporting Figures and Visualisations (Viewpoints 11-20).

- 2.5.2** In addition to the Environmental Appraisal, an addendum to the Planning Statement submitted with the application (dated April 2023) has also been prepared alongside this report.

- 2.5.3** The Addendum Planning Statement has been prepared to take account of this new environmental assessment information and the implications of the grid connection being subject to a separate consenting process, together with any implications this has in weighing the overall benefits and disbenefits of the EIA project in the planning balance. This is considered to address the Court's concern that benefits of the wind farm should not be given weight in the planning balance without also considering disbenefits of the grid connection works, as raised through the *Raeshaw Farms Limited v Scottish Ministers and Energiekontor UK Ltd* [2026] CSIH 10 judgment.

3. Indicative Grid Connection Route

- 3.1.1** As discussed in **Chapter 1**, the Applicant for the Proposed Development is not responsible for designing, consenting, building or operating the grid connection. For the purposes of this report a grid connection point of the recently consented Bingally 400 kV substation has been assumed.

- 3.1.2** As noted above, the indicative grid connection route was identified by considering the Holford Rules⁷ and utilising a Geographical Information Systems (GIS) analytical tool, which incorporated publicly available datasets to identify areas of lesser constraint through which a potential grid route could be located. An indicative grid route has been identified based on the following constraints:

- Landscape and Visual Amenity: Identification of the indicative grid connection route sought to avoid higher slopes to reduce the prominence of the OHL on skylines, looked to identify opportunities for backclothing of the OHL, and utilised dips in ridges wherever possible. Routeing through the interior of woodland areas has been avoided, and linear wooded edges have been followed as far as practicable.
- Hydrology, Hydrogeology, Geology and Peat: due to the complex hydrology between the Proposed Development and the Bingally 400 kV substation, reducing the number of watercourse crossings wherever possible and avoiding waterbodies was a key consideration. Extensive areas of Class 1 and Class 2 peat⁷ are located between the Proposed Development substation and the Bingally

⁷ Class 1 and Class 2 peat as identified on the NatureScot Carbon and Peatland Map 2016 (<https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/soils/carbon-and-peatland-2016-map>) (Class 1 peat is defined as "Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value" and Class 2 peat is defined as "Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential").

400 kV substation; these are largely unavoidable. Where possible, the indicative route has followed woodland edges to reduce interaction with Class 1 peat.

- **Cultural Heritage:** Although there are no designated heritage assets within the vicinity of the indicative grid connection route, there are known non-designated heritage assets within the landscape which have been avoided.
- **Energy Infrastructure:** a number of existing and consented wind farm developments are located to the south and west of the Proposed Development. The existing Corrimony wind farm is located approximately 3.2 km to the west of the Proposed Development. The consented Chrathaich wind farm lies adjacent to the west of the Proposed Development site boundary. Due to the proximity of turbines of the latter wind farm, it is anticipated that the first section of the indicative grid connection (approximately 1.8 km in length) would be undergrounded to avoid encroaching within proximity of the turbines of Chrathaich wind farm. It is anticipated that the remainder of the grid connection would consist of an OHL supported on typical 'H' wood poles as noted above.

3.1.3 The indicative grid connection route identified initially leaves the Proposed Development substation and travels in a north-eastern direction over increased sloping ground for approximately 650 m before travelling north-west for 1.1 km, avoiding a lochan to the west and T6 to the east. As noted above, it is anticipated that this section would be an underground cable. At this point it is assumed the route would transition on to an OHL as it continues across shallower slopes in a south-westerly direction for 4.1 km, crossing the River Enrick. The route then continues north-west for 1.4 km in the lower lying ground between the crests of Leac Nam Buidheag and Carn Dubh na Burrich. It continues in a west-northwest direction for 2.6 km along the edge of a commercial forestry area and crossing the Allt Nam Fiodhag watercourse before heading north between the edge of the commercial forestry and existing Beauly to Denny 400 kV OHL to the consented Bingally 400 kV substation (see **Figure 1a-b**).

3.2 Grid Connection Infrastructure

3.2.1 For the purposes of this Environmental Appraisal it is assumed at this preliminary stage that the Proposed Development will be connected to the electricity network via the following:

- Approximately 1.8 km of UGC; and
- Approximately 8.2 km of OHL supported on wood 'H' poles.

3.2.2 Delivery of construction materials for the OHL and UGC will be achieved by access from public roads. A series of access points from the public road network would be identified and included on plans to accompany the Section 37 application to be progressed by SSEN, as will temporary construction compounds along the length of the route. Vehicular access will be required to every pole location along the route during construction, and these will be agreed by SSEN with the landowners.

3.3 Overhead Line Infrastructure

3.3.1 The wood poles are based on a Trident design requiring a matched pair of poles erected 2.5 m apart with supporting crossarm steelwork linking the poles at the top. It is anticipated that the H poles would range from 10 m – 15 m in height above ground level, depending on ground conditions and topography. The OHL sections would be comprised of a combination of:

- **Suspension poles:** these are used for straight sections of OHL
- **Angle poles:** typically used where the OHL requires to change direction; and
- **Terminal poles:** where the OHL terminates into a substation or onto an underground cable section.

3.3.2 Spacing between individual poles would be informed by detailed surveys and design, but would likely be between 70 m – 100 m.

3.3.3 The erection of the wood poles will require an excavation to allow the pole brace block and/or steel foundation braces to be sorted and stored in appropriate layers and used for backfilling purposes. No concrete would be required.

3.3.4 Construction and erection of a standard single pole generally takes approximately half a day depending on ground conditions and location, i.e. it may take longer if the ground is softer or if shallow rock is encountered, and depending on the requirement for 'stay wires' to stabilise the pole in the ground.

3.3.5 New wood poles are dark brown in colour and weather over the years to a light grey.

3.4 Underground Cable Infrastructure

3.4.1 The transition from OHL to underground cable will be achieved via a cable sealing end on a terminal support 'H' pole. Typically, the conductors and pilot wires will be accommodated in a trench

approximately 1.25m deep and 1m wide where the route is underground. Sections of cable will be joined together at cable jointing pits, with the location of these dictated by a number of factors including cable size/length and ongoing access requirements. Manhole covers above jointing pits will enable access just below the surface for routine maintenance. The cable will be marked on services maps provided to utility companies and will be installed with marker tape to warn of its presence below the ground.

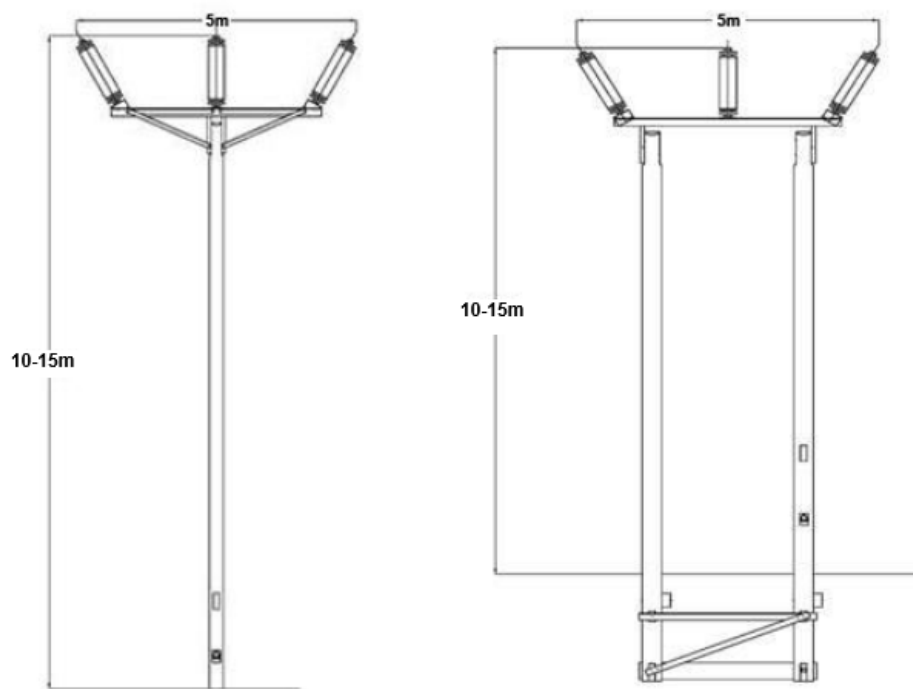
- 3.4.2** Typically, construction of UGC progresses at a rate of approximately 160 m to 320 m per week, but this can vary depending on ground and weather conditions.

3.5 Operation and Maintenance of the Grid Connection

- 3.5.1** It is expected that the OHL and UGC will be in-place for the operational life of the Development i.e. 35 years. Annual maintenance checks on foot are commonly required for underground cables, once operational. Any felled wayleave areas for the OHL will also have to be managed to maintain the required clearances whilst the grid connection remains in service, and walkover surveys will identify where there is a requirement to clear wayleaves of new growth or fallen trees.

Image 1: Photographs of Typical Wood Poles in the Landscape



Image 2: Indicative Intermediate and Angle 'H' Poles

4. Environmental Appraisal Methodology

4.1.1 The environmental topics assessed in the Loch Liath Wind Farm EIA Report and which are also considered in this appraisal of the effects of the grid connection include:

- Landscape and visual amenity;
- Ecology and ornithology;
- Cultural heritage;
- Geology, hydrology and peat;
- Traffic and transport;
- Noise; and
- Socio-Economics.

4.1.2 Impacts from/upon shadow flicker, aviation and telecommunications, will not be caused by the grid connection and therefore these issues are scoped out of further assessment within this document.

4.1.3 Overhead lines emit electric and magnetic fields (EMFs). EMFs are produced both naturally and as a result of human activity. EMFs can be harmful in high levels, but the maximum EMFs produced by the overhead line component of the indicative grid connection route would be less than the relevant public exposure limits. The effects associated with EMFs are therefore not considered further in this document.

4.1.4 Potential impacts on forestry were not considered in the Loch Liath Wind Farm EIA Report as no forestry will be affected by construction of the Proposed Development. Depending on the final route of the grid connection, this may require to be considered in greater detail by the TO, noting that the indicative grid connection route identified skirts the edge of the commercial forestry within which the consented Bingally 400 kV substation is located. As such, where relevant, the interaction of the indicative grid connection route with this area of forestry is noted below.

4.1.5 The appraisal of each topic considers:

- Baseline: including a brief description of the existing conditions along the indicative grid connection route, informed by a review of available desk based sources.
- A high level appraisal of the potential for significant effects resulting from construction and operation of the indicative grid connection route.

- A high level appraisal of the potential for significant 'in combination' effects of the Proposed Development and the indicative grid connection route.
 - Commentary on any changes from the findings of the Loch Liath Wind Farm EIA on the basis of the inclusion of the indicative grid connection route as part of the Whole Project.
- 4.1.6** This document concludes with commentary of the potential for cumulative effects of the Whole Project and a summary of the findings of the Environmental Appraisal.
- 4.1.7** The most effective way to avoid or reduce environmental effects of any grid connection is through its careful routeing and design. The indicative grid connection route has not undergone this process, and no surveys have been undertaken, therefore all judgements set out below are necessarily preliminary. However, it is considered likely that any potential significant environmental effects will be avoided where possible through a careful routeing and design process to be undertaken by the TO.
- 4.1.8** This Environmental Appraisal has been designed to be proportionate, is based on the information available and seeks to assess the potential for likely significant effects for identified environmental receptors. It identifies the key constraints and receptors for each topic, and a judgement is made on whether significant effects are likely to arise from the introduction of the grid connection in isolation or in-combination with the wind farm. It does not determine the significance of any potential effects (i.e. major, moderate, minor or negligible).
- 4.1.9** The appraisal is based on the following assumptions/limitations:
- As noted above, no detailed environmental surveys (including habitats, protected species, birds, peat, hydrology or cultural heritage) have been undertaken to inform the appraisal. These will be undertaken to inform the detailed routeing and assessment of the grid connection for which Section 37 consent will be sought by the TO, which is highly likely to differ from the indicative grid connection route identified in this report.
 - The appraisal has only drawn upon the limited publicly available constraints information shown in **Figures 1a-b**, the findings of relevant assessments within the Loch Liath Wind Farm EIA Report and professional judgement and experience of likely significant effects of similar grid connection projects.
 - No Zone of Theoretical Visibility (ZTV) or viewpoint visualisations have been generated to analyse and assess the potential visibility of the grid connection on nearby landscape and visual receptors or cultural heritage assets at this preliminary stage, however, Viewpoint 9: Meall Mor, above Glen Affric and VP10: Creagh Dhubh of the Landscape and Visual Impact Assessment (LVIA) which forms part of the Loch Liath Wind Farm EIA Report (Chapter 6, Figure 6.22 and Figure 6.23) illustrate views towards the proposed grid connection route.
 - The grid connection will be constructed in accordance with well-established good practice, in full compliance with regulatory requirements and in consultation with SEPA, The Highland Council (THC) and other consultees as appropriate.

5. Landscape and Visual Amenity

5.1 Baseline

- 5.1.1** As shown in **Figure 1a**, the indicative grid connection route passes through one landscape character type (LCT), namely LCT: 222 – Rocky Moorland Plateau – Inverness, which is characterised by “*open, gently rolling moorland plateaux with distinct edges descending to adjoining straths and glens or rising to merge with Rugged Massif*”. The western end of the indicative grid connection route terminates at the consented Bingally 400 kV Substation, located at the boundary of LCT 227: Farmed Strath – Inverness, which comprises Strath Glass. The indicative grid connection route does not pass through any local or nationally designated landscapes.
- 5.1.2** Visual receptors in the vicinity include users of a recreational route noted by ScotWays (HI/HI71/1), which runs between the Proposed Development and the Bingally 400 kV substation and would be intersected by the indicative grid connection route. There are also a number of core paths to the immediate west of the consented Bingally 400 kV substation, including the Hilton Lodge to Eve’s Road core path, which forms part of a historic Drove Road to Fort Augustus.
- 5.1.3** The indicative grid connection route is not in close proximity to residential receptors; the nearest property is located approximately 1.7 km from the western-most section of the indicative grid connection route at Hilton Lodge.
- 5.1.4** Existing energy infrastructure in the vicinity includes operational wind turbines at Bhlairaidh Wind Farm (32 turbines at 135 m to blade tip height) and Corrimony Wind Farm (5 turbines at 100 m to blade tip

height) to the north and south of the indicative grid connection route, and the steel lattice towers of the existing Beauly to Denny 400 kV OHL as it passes to the east and south of Strath Glass.

5.2 Appraisal of Potential Significant Effects from the Indicative Grid Connection Route

Landscape Effects

- 5.2.1** The indicative grid connection route has sought to avoid higher slopes to reduce the potential effects of skylining of the OHL as far as possible, including routeing the OHL to the east of the ridgeline of Leac nam Buidheag (556 m AOD).
- 5.2.2** There would be temporary disturbance to the landscape during construction of the indicative grid connection route. Given the limited footprint of construction works associated with an OHL of the type and scale likely to be proposed (and the limited section of undergrounding identified), the scale of landscape change and geographical extent of landscape change within the host LCT associated with the indicative grid connection route would be small, experienced for a short duration of time (short-term). Overall, the construction of the indicative grid connection route would result in a low magnitude of landscape change. Therefore, significant landscape effects during construction are considered unlikely to arise.
- 5.2.3** Once operational, the underground cable section of the proposed grid connection route would be restored and would not be a discernible feature in the landscape. The LCT would experience direct long-term landscape effects during operation of the OHL as a new or additional infrastructure element. Given the nature of the OHL, the scale of change and geographical extent of change within the host LCT would be small. Overall, the introduction of the OHL would result in a low magnitude of landscape change. Therefore, significant landscape effects during operation are considered unlikely to arise.

Visual Effects

- 5.2.4** In terms of visual amenity, there would be temporary visual effects during construction of the indicative grid connection route, including preparation of temporary working areas; delivery, assembly and erection of 'H' wood poles; and the movement of associated construction vehicles. Given the limited footprint of construction works associated with an OHL of the type and scale likely to be proposed (and the limited section of undergrounding identified), the scale of visual change and geographical extent of visual change associated with the indicative grid connection route would be small, experienced for a short duration of time (short-term). Overall, construction of the indicative grid connection route would result in a low magnitude of visual change, typically limited to visual receptors passing in closer proximity where construction activities would be more clearly perceptible. Therefore, significant visual effects during construction are considered unlikely to arise.
- 5.2.5** There is likely to be negligible visibility of the OHL from the Glen Affric area to the west due to enclosing landform and intervening woodland. From elevated locations such as the summits of Meall Mor (LVIA, VP98), Creag Dhubh (LVIA, VP109), and Toll Creagach (LVIA, VP1810), the OHL would often be seen back clothed against the underlying landform and moorland landcover and would not form a prominent feature in the large-scale host landscape. The OHL would also be seen in the context of wind turbines visible to the east (including the operational Corrimony Wind Farm and Bhlaraidh Wind Farm), as well as the steel lattice towers of the existing Beauly to Denny 400 kV OHL running north to south. As the core paths to the west of the Bingally 400 kV substation are largely located within a forested area, it is considered there would be limited visibility of the OHL. The OHL would be seen in proximity from the recreational route HI/HI71/1, which it intersects in the vicinity of the River Enrick, though it would be seen in the context of the nearby wind turbines of Bhlaraidh Wind Farm and Corrimony Wind Farm. There would be no discernible visibility of any underground cable sections of the indicative grid connection route following reinstatement and once operational.
- 5.2.6** Visual receptors would experience long-term visual effects during operation of the OHL as a new or additional infrastructure element. Given the nature of the OHL and the existing influence of energy infrastructure on views, the scale of change and geographical extent of visual change would be small. Overall, the introduction of the OHL would result in a low magnitude of visual change, typically limited to visual receptors passing in closer proximity to the OHL. Therefore, significant visual effects during operation are considered unlikely to arise.

⁸ Loch Liath Wind Farm EIA Report. Volume 3 (a) NatureScot Visualisations (Viewpoints 1-10) Figure 6.22: Viewpoint 9 Meall Mor, above Glen Affric.

⁹ Loch Liath Wind Farm EIA Report. Volume 3 (a) NatureScot Visualisations (Viewpoints 1-10) Figure 6.23:c Viewpoint 10 Creag Dhubh.

¹⁰ Loch Liath Wind Farm EIA Report. Volume 3 (b): NatureScot Visualisations (Viewpoints 11-20 and AESLQ & WLA Assessment Points). Figure 6.31: Viewpoint 18 Toll Creagach.

- 5.2.7** The likely landscape and visual effects associated with construction and operation of the indicative grid connection route would be confirmed through field survey, consultation, mapping and visualisations to inform an anticipated future Section 37 application for consent to be undertaken by the TO.

5.3 Appraisal of Potential Significant In-Combination Effects

- 5.3.1** Given the nature of the indicative grid connection, and the existing infrastructure within the wider landscape, it is considered unlikely that the indicative grid connection route identified would give rise to significant landscape and visual effects during either construction or operation.
- 5.3.2** The Loch Liath Wind Farm EIA Report concluded that there would be significant residual operational effects on the landscape character of a localised area of the host LCT: 222 – Rocky Moorland Plateau – Inverness, views and visual amenity from several representative viewpoints and recreational routes within the immediate vicinity of the Proposed Development Site, and from some areas of the small settlement of Balnain within Glen Urquhart. There would also be a significant residual effect to the Proposed Development Site during construction.
- 5.3.3** It is considered that the in-combination effects of the Whole Project would not give rise to any further significant landscape and visual effects than those identified in the Loch Liath Wind Farm EIA Report. Considering the route and scale of the indicative grid connection, it is judged to be unlikely that many of the receptors identified in the Loch Liath Wind Farm EIA Report, would experience views of the indicative grid connection.

5.4 Appraisals of Differences from Conclusions of the Loch Liath Wind Farm EIA Report

- 5.4.1** As noted above, assessment of the Whole Project would not change the conclusions reported in the Loch Liath Wind Farm EIA Report in respect to potential effects on landscape and visual amenity.
- 5.4.2** At this stage, and based on the indicative grid connection route shown on **Figure 1a**, it will be important for the detailed routeing and design of the grid connection to take into account the following design principles to effectively design out or minimise significant landscape and visual effects:
- routeing on lower ground, avoiding the highest summits and ridges, and areas of steepest sloping ground;
 - making effective use of woodland for screening in key views; and
 - minimise forestry loss to reduce extent of local landscape change (acknowledging that there can be screening benefits associated with forestry).

6. Ecology and Ornithology

6.1 Baseline

- 6.1.1** The indicative grid connection route does not intersect with any designated or non-designated sites denoted for ecology or ornithology. However, the following sites are located within 3 km of the indicative grid connection route:
- The Glen Affric to Strathconan Special Protection Area (SPA), the Strathglass Complex Special Area of Conservation (SAC) and the Glen Affric Site of Special Scientific Interest (SSSI) lie approximately 2.4 km to the west-northwest of the western-most point of the indicative grid connection route.
 - The Corrimony Royal Society for the Protection of Birds (RSPB) Reserve is located approximately 1 km to the north of the indicative grid connection route.
 - The Glen Affric National Nature Reserve (NNR) is located approximately 350 m to the south of the western-most point of the indicative grid connection route.
- 6.1.2** Additionally, areas of woodland listed on the Ancient Woodland Inventory (AWI) as Long Established of Plantation Origin lie approximately 350 m to the west of the western end of the indicative grid connection route and there are extents of woodland identified on the Native Woodland Survey of Scotland (NWSS) to the west of the Bingally 400 kV substation where the indicative grid connection route terminates.
- 6.1.3** The majority of the indicative grid connection route crosses upland peatland and bog habitats and areas of Class 1 and Class 2 priority peatland (as shown on the NatureScot Carbon and Peatland Map,

2016)¹¹, before skirting the edge of an area of commercial forestry on the approach to the consented Bingally 400 kV substation. Areas of Class 5 peatland are predominantly located on the ridgelines and in the forested area to the west whereby carbon-rich soils and deep peat may be present. It should be noted that the presence of peat has not been confirmed through survey.

- 6.1.4** There is an area of peatland restoration¹² proposed which would be crossed by the indicative grid connection route around Leac nam Buidheag. Available documentation states the peat depths across the restoration area are up to 392 cm with areas of good quality vegetation interspersed amongst the erosion features.
- 6.1.5** Chapter 8: Ecology of the Loch Liath Wind Farm EIA Report identified red squirrel, otter and multiple bat species within 2km (and 10km bat species) of the Proposed Development Site through a search of NBN Atlas¹³ (in June 2022) and the Highland Biological Recording Group¹⁴ (in November 2022). Based on the information within the Loch Liath Wind Farm EIA and what is known of the indicative grid connection route, similar habitats are likely to be present and the protected species most likely to be found along the indicative grid connection route include bats, otter and water vole. There is also potential for other protected species to be present within the forested area, which is skirted by the indicative grid route connection, including badger, red squirrel and pine marten.
- 6.1.6** Chapter 9: Ornithology of the Loch Liath Wind Farm EIA report identified the presence of a range of bird species, including species considered to be of high Nature Conservation Importance. Due to the similar habitats present across the indicative grid connection route it is likely that similar species would be present.
- 6.1.7** Any required ecological and ornithological surveys would be undertaken along the length of the grid connection route (and appropriate buffers/viewpoints) to identify the presence of protected species and/or habitats that could be affected, as well as bird species which are considered to fly at 'risk-height' and which could be susceptible to collision mortality. Adjustments to the routeing of the grid connection to avoid and/or minimise effects to the identified constraints would be informed by surveys.
- 6.1.8** Whilst not yet implemented and therefore not part of the existing baseline, it is noted that the consented Bingally 400 kV substation includes a Habitat Management Plan (HMP)¹⁵, which is largely restricted to the forested area in which the substation is situated. The HMP includes areas identified for peatland restoration, wet meadow mix, heathland restoration, Scots Pine woodland and a SuDS Basin.

6.2 Appraisal of Potential Significant Effects from the Indicative Grid Connection Route

- 6.2.1** As noted above, the indicative grid connection route does not intersect directly with any designated or non-designated sites for ecological or ornithological interest and therefore effect pathways between the indicative grid connection route and designated sites would be avoided. Therefore, no significant effects are likely to arise on any features of designated sites during construction or operation of the indicative grid connection route.
- 6.2.2** Construction of the indicative grid connection route would result in the direct loss of some habitats, including bog habitats. Where possible, it is assumed that the final route of the grid connection would avoid the most sensitive areas of habitat, as informed by surveys. As such, with habitat management mitigation in place, it is considered unlikely that there would be any significant effects on habitats during construction.
- 6.2.3** During construction, there is the potential for effects on protected species and breeding/roosting birds as a result of disturbance, mortality, and habitat loss / fragmentation. However, embedded design mitigation, best practice including a Construction Environmental Management Plan (CEMP) and species/bird protection plans would likely avoid or mitigate for any significant effects on habitats, protected species and birds during construction. It is also likely that an Environmental Clerk of Works (EnvCoW) would be appointed to monitor compliance with any planning/consent conditions required including mitigation measures. Where there is potential for the indicative grid connection route to intersect forested areas, it is assumed that consideration will be given to routeing at the detailed design stage to minimise the amount of felling required to the minimum statutory safe clearances.
- 6.2.4** Operational effects on bats are unlikely to arise as it is unlikely that any significant habitat/roosting habitats would be lost as a result of the indicative grid connection route. During operation, potential

¹¹ As identified as Class 1 and Class 2 peat on the NatureScot Carbon and Peatland Map, 2016.

¹² The Highland Council Planning Reference Number: 25/00947/PNO

¹³ National Biodiversity Network Atlas (n.d.) National Biodiversity Network Atlas, Scotland [online]. Available at: <https://scotland.nbnatlas.org/>

¹⁴ The Highland Biological Recording Group. Available at: <https://www.hbrg.org.uk/>

¹⁵ https://www.ssen-transmission.co.uk/globalassets/projects/bingally-updated-planning-docs/9.-appendix-g---landscape-and-habitat-management-plan/appendix-g---lt521-bingally-lhmp_final.pdf

effects could arise from bird collisions with the conductors of the indicative grid connection route. However, mitigation by design and if required additional mitigation such as line marking would enable any significant collision risk effects on birds to be mitigated and significant effects would be avoided.

- 6.2.5** Given that the indicative grid connection route has not yet been subjected to any onsite environmental surveys, effects on ecology and ornithology cannot be confirmed at this stage. However, as there is flexibility in routing and detailed design to address any key constraints, any required species-related mitigation would be applied, and given the nature of the underground cable and OHL, at this preliminary stage it is not considered that significant effects on ecology or ornithology are likely.

6.3 Appraisal of Potential Significant In-Combination Effects

- 6.3.1** It is considered unlikely that the indicative grid connection route would give rise to significant construction or operational effects on ecology or ornithology.
- 6.3.2** The Loch Liath Wind Farm EIA Report concluded that there would be no significant effects on ecology or ornithology receptors.
- 6.3.3** The in-combination effects of the Whole Project would not give rise to any new significant effects, or increase the level of effects associated with the Proposed Development such that they would be deemed significant for ecology or ornithology.

6.4 Appraisals of Differences from Conclusions of the Loch Liath Wind Farm EIA Report

- 6.4.1** As noted above, assessment of the Whole Project would not change the conclusions reported in the Loch Liath Wind Farm EIA Report in respect to ecology and ornithology.
- 6.4.2** At this stage, and based on the indicative grid connection route show in **Figure 1b**, it will be important for the detailed routing and design of the grid connection to take into account the following design principles to effectively design out or minimise significant ecological and ornithological effects:
- avoid areas of sensitive or high conservation habitat as far as possible, including areas of Class 1 peat where these support peatland habitats;
 - minimise habitat loss wherever possible;
 - maximise distance between designated or non-designated sites as far as possible; and
 - be cognisant of areas identified for peatland restoration.

7. Cultural Heritage

7.1 Baseline

- 7.1.1** The indicative grid connection route does not pass close to any designated heritage assets. One Category B and two Category C Listed Buildings are located approximately 1.5 km to the west of the Bingally 400 kV substation.
- 7.1.2** As the indicative grid connection route exits the Proposed Development substation, a non-designated asset (NH32SE 1.00: Loch Na Leirisdein, Sheiling Hut) is located approximately 250 m west of the indicative grid connection route. A further non-designated asset (NH22SE 8.00: Coille An Tuathanaich, Township) is located approximately 345 m west of the indicative grid connection route on the entrance to the Bingally 400 kV substation.
- 7.1.3** There is the potential for unrecorded buried archaeological remains to be present along the length of the indicative grid connection route. Field surveys would require to be undertaken to determine the identified and unidentified heritage assets where potential effects could arise.

7.2 Appraisal of Potential Significant Effects from the Indicative Grid Connection Route

- 7.2.1** During construction, there is the potential for direct impacts upon unrecorded archaeological remains where groundworks occur, however, it is considered unlikely there would be many unrecorded assets due to the altitude and sloping ground, as well as the surrounding peatland habitats. In line with good practice, it is likely that a professionally qualified Archaeological Contractor would be appointed to act as an Archaeological Clerk of Works (ACoW) for the duration of the construction phase of the grid connection. The role of the ACoW would be to provide advice to the appointed Construction Contractor regarding micro-siting of development components to ensure preservation of assets in-situ where there

is a possibility of intersecting with identified heritage assets, and to undertake archaeological monitoring of topsoil stripping operation in areas designated and approved by The Highland Council Archaeological Advisors (THCAS). Taking into consideration the above, significant effects are unlikely to arise on cultural heritage receptors during construction.

- 7.2.2** The theoretical visibility of the indicative grid connection route with nearby heritage assets has not been analysed for this appraisal, however, as the Listed Buildings noted above are located behind a ridgeline to the west of the terminal point of the indicative grid connection route, it is considered unlikely there would be intervisibility from these assets and the indicative grid connection route during operation.
- 7.2.3** Given the distance from known heritage assets, it is considered unlikely that the indicative grid connection route would give rise to significant construction or operational cultural heritage effects

7.3 Appraisal of Potential Significant In-Combination Effects

- 7.3.1** It is considered unlikely that the indicative grid connection route would give rise to significant construction or operational effects on cultural heritage.
- 7.3.2** The Loch Liath Wind Farm EIA Report concluded that there would be no significant effects on cultural heritage receptors.
- 7.3.3** The in-combination effects of the Whole Project would not give rise to any new significant effects, or increase the level of effects associated with the Proposed Development such that they would be deemed significant for cultural heritage.

7.4 Appraisals of Differences from Conclusions of the Loch Liath Wind Farm EIA Report

- 7.4.1** As noted above, assessment of the Whole Project would not change the conclusions reported in the Loch Liath Wind Farm EIA Report for cultural heritage.
- 7.4.2** At this stage, and based on the indicative grid connection route show in **Figure 1b**, it will be important for the detailed routeing and design of the grid connection to take into account the following design principles to effectively design out or minimise significant cultural heritage effects:
- routeing away from upstanding or buried archaeological remains to avoid/minimise direct physical effects during construction; and
 - minimise effects on setting to designated heritage assets where possible.

8. Geology, Hydrology and Peat

8.1 Baseline

- 8.1.1** The eastern section of the indicative grid connection route is located within the River Ness surface water catchment, and the western section is located within the River Beaully surface water catchment.
- 8.1.2** The entire indicative grid connection route is located within the Northern Highlands ground Drinking Water Protected Area (DWPA), and approximately 1.8 km of the western-most section of the indicative grid connection route is located within the Abhainn Deabhag surface DWPA.
- 8.1.3** The indicative grid connection route would cross multiple watercourses, including the River Enrick, and would be located within areas of flood risk associated with these watercourses. The indicative grid connection route would also be located in close proximity to a number of lochans, although crossings of these waterbodies has been avoided. It is considered unlikely that any private water supply (PWS) sources are present within 250 m of the indicative grid connection route given the distance to the nearest property (approximately 1.7 km). No PWS were identified within the Loch Liath Wind Farm EIA Report.
- 8.1.4** The majority of the indicative grid connection route is shown to be located within Class 1 and Class 2 priority peatland as noted above. Approximately 300 m of the eastern-most section runs through mineral soils, and approximately 3.8 km runs through Class 5 peatland, mainly contained to the upper slopes and forested areas.
- 8.1.5** It is stated in the Loch Liath Wind Farm EIA Report that the main watercourses are generally of good quality and can support migratory fish where there are no obstructions present to prevent their migration. Therefore, it is assumed some of the watercourses which would be crossed by the indicative grid connection route may potentially support migratory fish.

- 8.1.6** No Groundwater Dependant Terrestrial Ecosystems (GWDTE) were identified as part of the Loch Liath Wind Farm EIA Report. The indicative grid connection route has not been subject to detailed environmental surveys which are required to identify the presence of GWDTE.

8.2 Appraisal of Potential Significant Effects from the Indicative Grid Connection Route

- 8.2.1** The construction of the indicative grid connection route has the potential to result in a number of potential effects, including:
- potential effects on deep peat;
 - disruption to the hydrogeological and groundwater system, including GWDTEs;
 - the risk of ground and surface water contamination, including of PWS;
 - increased sediment loading to streams; including from forestry felling if required;
 - increased flood risk; and
 - potential effects on ground stability.
- 8.2.2** Due to the wide extent of high-priority peatland habitats across the length of the indicative grid connection route, there would be some impact to peat during construction. However, as the footprint of a wooden pole OHL design is small, it is anticipated that any required peat excavation would be minimal. Peat depth surveys would be undertaken to identify areas of deeper peat to be avoided through routeing and design as far as practicable to minimise potential effects. As per good practice, it is expected that a Peat Management Plan (PMP) would be produced which will provide information and guidance on the re-use and management of excavated peat and it is also likely that a habitat management and/or restoration plan would be prepared and as a result no significant effects on peat during construction are anticipated.
- 8.2.3** If field surveys identify GWDTE or PWS to be present, mitigation would be put in place to ensure that effects are avoided or reduced and therefore residual effects are unlikely to be significant.
- 8.2.4** Where the indicative grid connection route would cross watercourses, the watercourse crossings will be regulated by the Environmental Authorisation (Scotland) Regulations 2018 (EASR) and installed with standard industry good practice, as required by SEPA. Due to the number of watercourse crossings, and proximity to a number of waterbodies, there is the potential for construction effects on hydrology. However, it is considered that with the application of embedded mitigation such as adherence to any SEPA recommended buffers between infrastructure and watercourses and application of appropriate good practice guidance, any significant construction effects would be avoided.
- 8.2.5** Overall, taking into consideration embedded mitigation and good practice guidance, significant effects on geology, hydrology and peat and considered unlikely to arise.
- 8.2.6** No operational effects are likely to arise for geology, hydrology and peat.

8.3 Appraisal of Potential Significant In-Combination Effects

- 8.3.1** It is considered unlikely that the indicative grid connection route would give rise to significant construction or operational effects on hydrology, hydrogeology, geology or peat following the implementation of embedded mitigation and good practice guidance.
- 8.3.2** The Loch Liath Wind Farm EIA Report concluded that there would be no significant effects on hydrology, hydrogeology, geology or peat.
- 8.3.3** The in-combination effects of the Whole Project would not give rise to any new significant effects, or increase the level of effects associated with the Proposed Development such that they would be deemed significant for hydrology, hydrogeology, geology or peat.

8.4 Appraisals of Differences from Conclusions of the Loch Liath Wind Farm EIA Report

- 8.4.1** As noted above, assessment of the Whole Project would not change the conclusions reported in the Loch Liath Wind Farm EIA Report for hydrology, hydrogeology, geology or peat.
- 8.4.2** At this stage, and based on the indicative grid connection route show in **Figure 1b**, it will be important for the detailed routeing and design of the grid connection to take into account the following design principles to effectively design out or minimise significant hydrological and peat effects:

- avoid areas of deep peat as far as practicable;
- minimise the number of water crossings as far as possible; and
- avoid interaction with any waterbodies/lochans.

9. Traffic and Transport

9.1 Baseline

- 9.1.1 The wider area is serviced by a number of major and minor roads, which provide access and transport routes to settlements, individual residences and the wider strategic road network. As noted above, the indicative grid connection route intersects a recreational route (HI/HI71/I) and is located in close proximity to a number of core paths to the west of the Bingally 400 kV substation.

9.2 Appraisal of Potential Significant Effects from the Indicative Grid Connection Route

- 9.2.1 The construction of the indicative grid connection route will require temporary access to each wood pole location and at locations along the section of underground cable. Due to the nature, design and rate of construction of the indicative grid connection route, it is anticipated that vehicle movements at any location would be limited over the course of the construction period which will not lead to any noticeable increase in traffic volumes on the surrounding road network, albeit there will be a slight change in traffic composition as HGVs will be required to deliver materials for both the underground cable and OHL sections.
- 9.2.2 It is likely that a Construction Traffic Management Plan (CTMP) will be implemented for the indicative grid connection route to manage traffic movements on the surrounding public road network, and this would be coordinated with the construction of the Proposed Development should construction works overlap. Additionally, an Access Management Plan (AMP) would be required where the indicative grid connection route intersects with the identified recreational route (as is the case at HI/HI71/I as noted above). Any felling required to construct the indicative grid connection route, which is mainly confined to the western section on the approach to the Bingally 400 kV substation, is unlikely to generate significant levels of forestry HGV traffic across the length of the route.
- 9.2.3 During operation there would be infrequent visits by maintenance teams and therefore significant effects as a result are unlikely to arise.
- 9.2.4 Given the small number of anticipated vehicle movements associated with its construction and operation, it is considered unlikely that the proposed grid connection route would give rise to significant construction or operational traffic and transport effects.

9.3 Appraisal of Potential Significant In-Combination Effects

- 9.3.1 It is considered unlikely that the indicative grid connection route would give rise to significant construction or operational effects on traffic and transport.
- 9.3.2 The Loch Liath Wind Farm EIA Report concluded that there would be no significant effects on traffic and transport.
- 9.3.3 The in-combination effects of the Whole Project would not give rise to any new significant effects, or increase the level of effects associated with the Proposed Development such that they would be deemed significant for traffic and transport.

9.4 Appraisals of Differences from Conclusions of the Loch Liath Wind Farm EIA Report

- 9.4.1 As noted above, assessment of the Whole Project would not change the conclusions reported in the Loch Liath Wind Farm EIA Report for traffic and transport.

10. Noise

10.1 Baseline

- 10.1.1 The indicative grid connection route passes primarily through environments that are rural in nature, comprising mostly open peatland habitats. The existing baseline noise environment of the indicative grid connection route is likely to be typical of a quiet/rural environment, characterised by 'natural'

sources such as wind and disturbed vegetation, with some contribution from anthropogenic sound such as forestry activity or existing operational wind turbines.

10.2 Appraisal of Potential Significant Effects from the Indicative Grid Connection Route

- 10.2.1** It is typically accepted that grid connection construction works are linear in geographical extent and of short duration at any one location. As construction progresses, noise generated will diminish quickly, particularly for any underground sections, moving the activity away from any noise sensitive receptors such that significant effects are not likely. Given the limited traffic expected to be generated for the construction and operation of the indicative grid connection route, it is not considered that construction traffic noise will be perceptible.
- 10.2.2** Good practice measures for controlling/minimising noise during construction may include the following:
- restricted hours of construction to avoid sensitive periods;
 - the use of equipment with appropriate noise control measures (e.g. silencers, mufflers and acoustic hoods); and
 - additional good practice measures as set out in BS 5228-1/2:2009+A1:2014 (BS 5228)¹⁶.
- 10.2.3** Overall, any noise effects during construction would be short term and temporary and with best practice mitigation in place significant effects are unlikely to arise.
- 10.2.4** Operating OHLs can generate audible noise, the level of which depends upon the operating voltage and the choice of conductor system. Noise from OHLs is produced by the phenomenon of 'corona discharge', this being a very limited breakdown of the air at points around the surface of the conductor. Audible noise would only be perceptible to an observer standing directly beneath the line. Noise levels a very short distance (50 m) from the OHL would be imperceptible relative to the background. Therefore, it is unlikely that significant operational noise effects would occur.

10.3 Appraisal of Potential Significant In-Combination Effects

- 10.3.1** It is considered unlikely that the indicative grid connection route would give rise to significant construction or operational effects on noise.
- 10.3.2** The Loch Liath Wind Farm EIA Report concluded that there would be no significant effects on noise.
- 10.3.3** The in-combination effects of the Whole Project would not give rise to any new significant effects, or increase the level of effects associated with the Proposed Development such that they would be deemed significant for noise.

10.4 Appraisals of Differences from Conclusions of the Loch Liath Wind Farm EIA Report

- 10.4.1** As noted above, assessment of the Whole Project would not change the conclusions reported in the Loch Liath Wind Farm EIA Report for noise.

11. Socio-economics, Tourism and Recreation

11.1 Baseline

- 11.1.1** As noted above, the indicative grid connection route intersects with one recreational route (HI/HI71/1) but does not interact with any other designated paths.
- 11.1.2** In relation to tourism, no key tourist attractions are noted within the local area.

11.2 Appraisal of Potential Significant Effects from the Indicative Grid Connection Route

- 11.2.1** As noted in the appraisal of Landscape and Visual effects of the indicative grid connection route above, there may be some visual effects on the recreational route HI/HI71/1 during construction, however, these are likely to be localised and short term. Whilst temporary diversions or closures of the recreational route may be required during construction of the indicative grid connection route for health

¹⁶ UK Government, 2009. British Standards Institution 5228. *Code of practice for noise and vibration control on construction and open sites* (BS 5228), BSI, 2009, Amended 2014.

and safety reasons, works at any one location will be short in duration therefore the impact of a diversion or closure would be limited, and would not result in significant effects.

11.2.2 As the construction processes are likely to require only a small labour force and are short in duration, it is unlikely that the employment created will materially affect local employment levels, although there will be some local spending by construction workers leading to some positive direct economic benefits. Overall, during construction no significant effects are likely to arise for socio-economics, tourism or recreation.

11.2.3 It is recognised that there is already existing energy infrastructure within the area which is not considered to have adversely affected tourism within the area. All recreational paths would be open during operation of the grid connection. There would be an insignificant labour force needed for the maintenance of the OHL during operation. On this basis, potential operational effects on tourism are not considered likely to be significant.

11.3 Appraisal of Potential Significant In-Combination Effects

11.3.1 It is considered unlikely that the indicative grid connection route would give rise to significant construction or operational effects on socio-economics, tourism or recreation.

11.3.2 The Loch Liath Wind Farm EIA Report concluded that there would be no significant effects on socio-economics, tourism or recreation.

11.3.3 The in-combination effects of the Whole Project would not give rise to any new significant effects, or increase the level of effects associated with the Proposed Development such that they would be deemed significant for socio-economics, tourism or recreation.

11.4 Appraisals of Differences from Conclusions of the Loch Liath Wind Farm EIA Report

11.4.1 As noted above, assessment of the Whole Project would not change the conclusions reported in the Loch Liath Wind Farm EIA Report for socio-economics, tourism or recreation.

12. Cumulative Effects

12.1.1 High level commentary on the cumulative effects associated with the indicative grid connection route are noted below. It is assumed that all existing operational or under construction developments form part of the existing baseline conditions against which the indicative grid connection route would be assessed.

12.1.2 With respect to grid connections of neighbouring wind farms, it is well established that the environmental effect of development includes effects arising cumulatively with other existing and/or proposed developments.

12.1.3 This being the case, the Applicant considers it is appropriate to consider whether the Proposed Development and the indicative grid connection route, together with other developments (including the grid connections of neighbouring wind farms) could give rise to significant cumulative effects on the environment. The following points should be noted:

- In some cases, the grid connection for another wind farm development may be at a preliminary stage and therefore there may be no (or limited) knowledge and understanding as to the nature and location of such works. The carrying out of a cumulative assessment in these circumstances would be at odds with well-established EIA practice, which scopes out cumulative developments where there is a high degree of uncertainty as to their characteristics and in turn their potential to cause likely significant effects. This applies to most (but not necessarily all) development that is not yet the subject of a planning application or consented (including where projects are at EIA Screening or Scoping stage, and noting that operational schemes and those under construction form part of the existing baseline as noted above).
- Where there is reasonable knowledge as to the nature and location of other grid connection works, and in particular works that are either the subject of an application or consented, it will need to be considered (by virtue of the nature, scale and location of those works) whether there is any prospect of likely significant effects arising cumulatively with the Proposed Development or its indicative grid connection route.

12.1.4 As such, a cumulative assessment would only consider the following projects:

- Bhlaraidh Wind Farm Extension (consented application: ECU00001900; variation to increase tip height: ECU00006176);
- The consented grid connection for Bhlaraidh Wind Farm Extension (ECU00004639);

- The consented Chrathaich Wind Farm (ECU00004704); and
- The consented Bingally 400 kV substation (25/00592/FUL)¹⁷.

12.1.5 Although other potential developments may connect into the consented Bingally 400 kV substation in the future, such as the Glen Earrach Pumped Storage Hydro project¹⁸, the form and route of such grid connection are unknown at this point in time and are therefore not considered within this report.

12.1.6 As noted above, no additional significant effects would be likely to arise as a result of the Whole Project than have already been reported within the Loch Liath Wind Farm EIA Report. Therefore, no additional cumulative effects when considering the indicative grid connection route are anticipated. In a scenario where the aforementioned developments are present, the grid connection would form a very small feature and contribute to very limited additional effects in this context.

13. Summary

13.1.1 This Environmental Appraisal seeks to provide an overview of the indicative grid connection type, an indicative route and the likelihood for it to give rise to any significant environmental effects, alone or in combination with the Proposed Development. The assessment is restricted to an early and high-level appraisal and baseline data limitations are recognised.

13.1.2 However, based on the information available at this preliminary stage, it is not considered that the construction and operation of the indicative grid connection route in combination with the Loch Liath Wind Farm will result in significant short-term (during construction), long-term (during operation) or cumulative effects if the final grid connection route follows careful routing and design, as well as the implementation of standard good practice and mitigation measures. Importantly, the conclusions of this appraisal do not alter the findings of the EIA Report for the wind farm alone; the Whole Project impacts remain consistent with those already assessed.

13.1.3 It should be re-iterated that the Applicant is not seeking consent for the indicative grid connection route presented and that separate planning consent will be sought for the grid connection by the TO following any consent granted for the Proposed Development in line with the new Grid Reform process.

14. References

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<https://projects.statkraft.co.uk/Loch-Liath/>

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Historic Environment Scotland data including Scheduled monuments, conservation areas, inventory battlefields and inventory gardens and designed landscapes. Available at:

<https://www.historicenvironment.scot/archives-and-research/archives-and-collections/pastmap/>

Historic Environment Scotland. Canmore data. Available at:

<https://portal.historicenvironment.scot/apex/f?p=PORTAL:downloads:::DATASET:NHRE>

¹⁷ It is noted that an EIA was not undertaken for the consented Bingally 400 kV substation, yet the Environmental Appraisal undertaken in support of the application found significant effects for landscape and visual amenity.

¹⁸ <https://www.glenearrach.energy/>

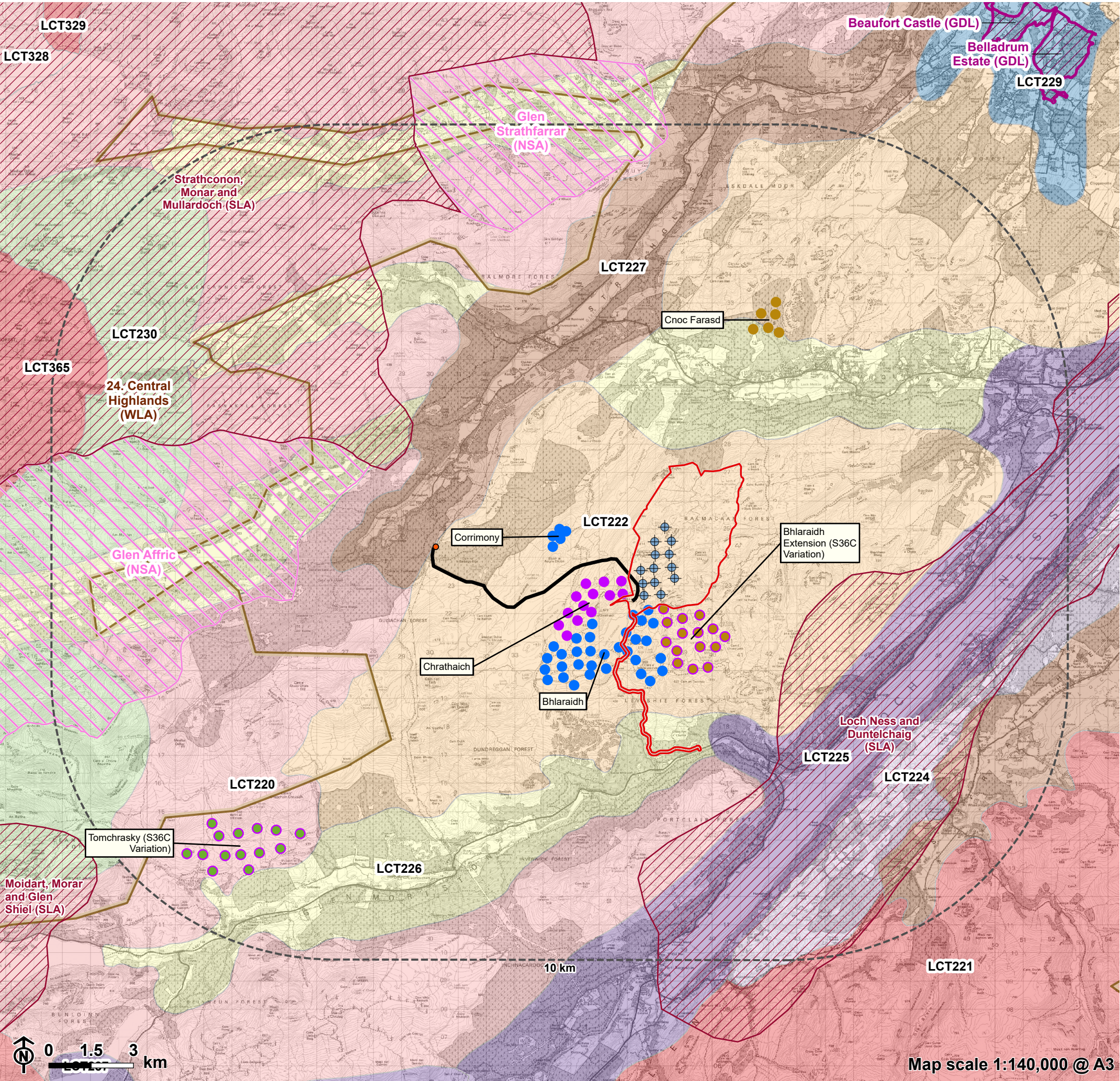
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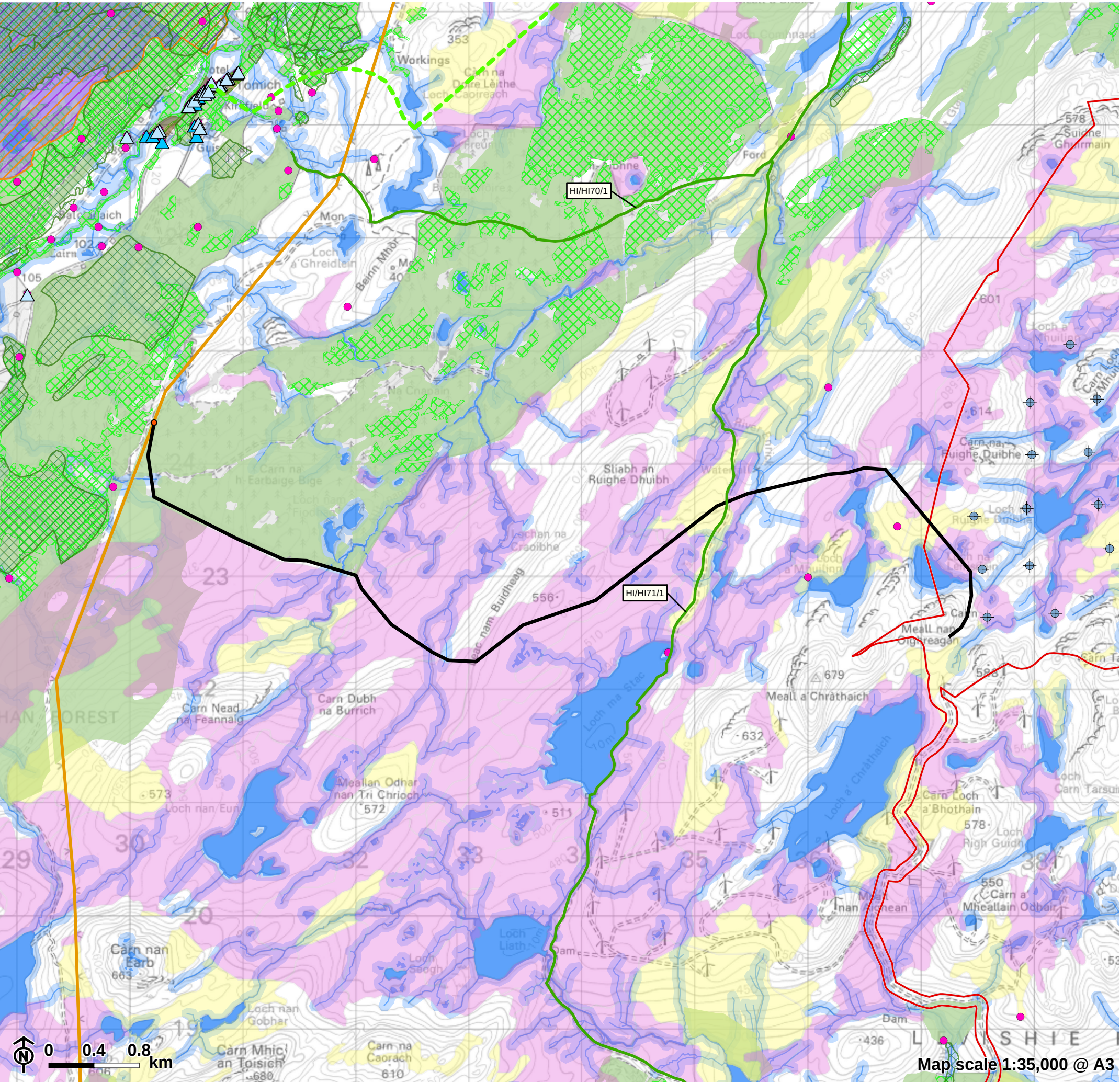
15. Figure 1a-b

Figure 1a: Landscape Appraisal Constraints



- Loch Liath site boundary
- Loch Liath turbine
- Consented Bingally substation
- Indicative grid connection route
- 10km study area (from approx route location)
- Wind turbine within 10 km (by status)**
- Application Submitted
 - Application Submitted (Previously Consented)
 - Consented
 - Design/Scoping (Previously Consented)
 - Operational
- Landscape Designations**
- National Scenic Area (NSA)
 - Gardens and Designed Landscapes (GDL)
 - Special Landscape Area (SLA) Highland
 - Wild Land Area (WLA)
- NatureScot Landscape Character Assessment**
- 220: Rugged Massif - Inverness
 - 221: Rolling Uplands - Inverness
 - 222: Rocky Moorland Plateau - Inverness
 - 224: Farmed and Wooded Foothills
 - 225: Broad Steep-Sided Glen
 - 226: Wooded Glen - Inverness
 - 227: Farmed Strath - Inverness
 - 229: Enclosed Farmland
 - 230: Interlocking Sweeping Peaks - Inverness
 - 237: Rocky Moorland - Lochaber
 - 328: Rugged Mountain Massif - Ross & Cromarty
 - 329: Rounded Mountain Massif
 - 342: Farmed River Plains
 - 365: Rugged Massif - Skye & Lochalsh

Figure 1b: Appraisal Constraints



- Loch Liath site boundary
- Loch Liath turbine
- Consented Bingally substation
- Indicative grid connection route
- Existing overhead line

Right of Way (Scotways)

- Right of Way
- Other route

Cultural Heritage

- Category B listed building
- Category C listed building
- NRHE point
- Conservation area

Natural Heritage

- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- Ancient Woodland Inventory

Forestry

- National Forest Inventory (Woodland NFI 2024)
- Native Woodland Survey of Scotland

Hydrology

- Surface water
- Surface water 50 m buffer

Carbon and Peatland (2016)

- Class 1
- Class 2