APPENDIX 5.1 – HABITAT AND PROTECTED SPECIES SURVEY REPORT

Figures

See EA Figures 5.1 to 5.5

1. INTRODUCTION

1.1 Overview

1.1.1 Scottish and Southern Electricity Networks Transmission (SSEN Transmission), operating under licence held by Scottish Hydro Electric Transmission plc, owns, operates and develops the high voltage electricity transmission system in the north of Scotland and remote islands. SSEN Transmission is developing proposals for a new 132 kV single circuit Overhead Line (OHL) between the consented Achany Wind Farm Extension on-site substation and the operational Shin substation (the Proposed Development).

1.1.2 This Proposed Development leaves the Achany Wind Farm Extension on-site substation at approximately 280 m above sea level (asl) and initially travels south-west for approximately 1 km before travelling in a south-easterly direction, passing south of the operational Achany and Rosehall Wind Farms through Glen Rossal. The Proposed Development continues in a south-easterly direction, and after it crosses the A839, it passes to the south of Braemore wood, continuing south-easterly through Shin forest to connect into Shin Substation at approximately 10 m asl from the north-west.

1.1.3 This report presents the results of habitat and protected surveys undertaken for the Proposed Development and should be read with reference to **Chapter 5: Ecology** of this EA Report.

1.2 Survey Areas

1.2.1 A high-level habitat walkover was undertaken in August 2022 for the route selection stage, see **Chapter 2: Routing Process and Alternatives** for further information of selection of the preferred alignment. Information gathered during this walkover was used to inform surveys for the final alignment of the Proposed Development.

1.2.2 A range of surveys were employed to record baseline ecological conditions within the application boundary of the Proposed Development. These were undertaken in June and July 2023 within the Survey Areas as follows:

- 'Habitat Survey Area' (HSA) is a 500 m corridor, defined as 250 m from infrastructure associated with the Proposed Development, including proposed pole locations, cable sealing end (CSE) structure and access tracks (both temporary and permanent);
- 'Protected Species Survey Area' (PSA) is a 500 m corridor, defined as 250 m from infrastructure associated with the Proposed Development, focusing on badger, red squirrel, water vole, otter and pine marten; and
- 'Bat Roost Survey Area' (BSA) is a 200 m corridor, defined as 100 m from infrastructure associated with the Proposed Development, focusing on structures that could support bat roosts.

1.3 Relevant Legislation

1.3.1 This appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the Scottish Biodiversity Strategy from which the protection of sites, habitats and species is derived in Scotland:

- Conservation (Natural Habitats etc.) Regulations 1994 (as amended in Scotland) (Habitats Regulations);
- Wildlife and Countryside Act 1981 (as amended) (WCA);
- Nature Conservation (Scotland) Act 2004 (as amended);
- Wildlife and Natural Environment (Scotland) Act 2011 (WANE Act);
- Protection of Badgers Act (1992);
- Town and Countryside Planning (Environmental Impact Assessment) (Scotland) Regulations 2017;
- Planning (Scotland) Act 2019;

- Wild Mammals (Protection) Act 1996; and
- Scottish National Planning Framework 4 (NPF4).

1.4 Objectives

Habitat and protected species surveys were commissioned in order to gather baseline habitat data to map and characterise habitat communities, plant species and protected species found within the Survey Area. The objectives of the baseline surveys were to:

- Establish the spatial distribution of habitats, vegetation communities and protected species which may be impacted by the Proposed Development;
- Identify the presence of priority habitats and their nature conservation value within the Survey Area; and
- Identify the presence and distribution of potential Groundwater Dependent Terrestrial Ecosystems (GWDTEs) for subsequent hydrological assessment.

1.4.1 Priority habitats are defined as those included in Annex I of the Habitats Directive, Scottish Biodiversity List (SBL) and / or Highland Local Biodiversity Action Plan (LBAP).

1.4.2 Protected species are defined as those included within Schedule 1 of the Wildlife and Countryside Act (WCA), The Protection of Badgers Act and the SBL.

2. METHODOLOGY

2.1 Habitat Surveys

2.1.1 Habitats across the HSA were classified and mapped following the UKHab methodology[1], with habitat boundaries and classification being recorded onto 1:10,000 scale Ordnance Survey (OS) maps. The UKHab system comprises of a principle hierarchy (the Primary Habitats) and non-hierarchical Secondary Codes. Primary Habitats include ecosystems (level 1), broad habitat types (level 2 and 3), more defined habitats, including Priority Habitats (level 4) and further defined habitats, including Annex 1 Habitats (level 5). Secondary Codes were then used to provide more information on a habitat (e.g. origin of habitat, management, mosaic habitats, land use). A single Primary Habitat is assigned to each polygon, line or point feature with generally a maximum of six Secondary Codes used. Lowercase letters are used, with the levels 2 to 5 shown by the alphanumeric code and no commas are used between secondary codes as per the UKHab User Manual. The habitat surveys were carried out in June and July 2023 by surveyors of Orrin Ecology.

2.1.2 Where appropriate, maps are supplemented with target notes which provide specific information on habitats present that are too limited in extent to map at the scale at which data is presented, or the presence of species and habitats of ecological interest.

2.1.3 Where priority or habitats of potential Groundwater Dependent Terrestrial Ecosystems (GWDTE) were identified, these habitats were also surveyed for National Vegetation Classification (NVC). The survey was undertaken in line with standard guidance for NVC surveys, as detailed in the NVC Users' Handbook[2]. Any wetland habitats were evaluated in terms of their potential to be groundwater dependent terrestrial ecosystems (GWDTEs). This was done based on the hydrogeological setting of each habitat community identified, with reference to SEPA guidance[3] modified from the United Kingdom Technical Advisory Group (UKTAG) list of National Vegetation Classification (NVC) communities and associated groundwater dependency scores.

2.1.4 NVC communities were attributed to the mapped polygons and matching field data against published floristic tables[4,5,6]. Stands of vegetation were classified to sub-community level where possible.

2.1.5 In order to assess the potential risk to GWDTE, a distance of 250m buffer of the proposed overhead line and access track location was used.

2.1.6 Following the field survey, the conservation status of each habitat recorded was identified based on the following:

- Annex I habitats listed on the EC Habitats Directive, as translated into British and Scottish law by The Conservation (Natural Habitats, &c.) Regulations 1994 and subsequent legislation;
- UK Biodiversity Action Plan (UKBAP) priority habitats. Although superseded by the UK Post-2010 Biodiversity Framework in 2012, the UKBAP remains a useful resource for assessing UK conservation status and informs regional conservation priorities; and
- Scottish Biodiversity List (SBL) priority habitats for conservation.

2.1.7 Plant species of national significance (as defined below) where present, were recorded as target notes:

[1] UKHab Ltd (2023) UK Habitat Classification Version 2.0. Available from: https://www.ukhab.org
[2] Rodwell, J.S. (2006) NVC Users' Handbook. ISBN 978 1 86107 574 1.
[3] Scottish Environmental Protection Agency (2014) *Land Use Planning System: Guidance Note 31: Guidance on Assessing the Impacts of Windfarm Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems*
[4] Rodwell, J.S. (ed.) 1991 British Plant Communities Volume 1 Woodlands and Scrub. Cambridge University Press, Cambridge
[5] Rodwell, J.S. (ed.) 1991 British Plant Communities Volume 2 Mires and Heaths. Cambridge University Press, Cambridge
[6] Rodwell, J.S. (ed.) 1992 British Plant Communities Volume 3 Grassland and Montane Communities. Cambridge University Press, Cambridge

- Higher plant species of Lower plants (bryophytes) listed as Critically Endangered (CR), Endangered (EN) or Vulnerable (VU), on the respective red data lists for Great Britain as based on International Union for Conservation of Nature (IUCN) criteria;
- Nationally rare (NR) – occurring in 15 hectares or fewer in Great Britain; or
- Nationally scarce (NS) – occurring in 16-100 hectares in Great Britain; and
- UK Biodiversity Action Plan (UKBAP) priority species.

2.1.8 Nomenclature for vascular plants follows Stace (2010)[7], bryophytes and liverworts follow Atherton et al (2010)[8] and for lichens Dobson (2011)[9]. UKHab Classification maps were digitised using the ArcGIS 10.8 GIS package.

2.1.9 Non-native and / or invasive terrestrial plants and algae were recorded onto 1:10,000 scale survey maps in the field. The locations of all non-native / invasive species were also recorded via the use of a handheld GPS and photographs taken to visually catalogue the record.

Habitat Condition Assessment

2.1.10 To inform the biodiversity enhancement proposals, habitat condition assessment (HCA) were undertaken alongside UKHab surveys. Each habitat parcel was assigned a condition score (Good, Fairly Good, Moderate, Fairly Poor, Poor or N/A) based on the Condition Assessment methodology detailed in the Natural England Biodiversity Metric[10] at time of survey. NatureScot expects to publish its own metric for use in Scotland, alongside Condition Assessment methodology, until that time SSEN Transmission has developed a Biodiversity Net Gain (BNG) toolkit based upon the accepted Natural England Biodiversity Metric, which aims to quantify biodiversity using habitats as a proxy.

2.2 Protected Species

2.2.1 Protected species surveys were undertaken in June and July 2023 across the Survey Areas as defined in **Section 1.2** above where suitable habitat was present, following the methodologies described below.

Otter (Lutra lutra)

2.2.2 Otter field signs that were searched for, as described in current guidance[11,12,13], include:

- holts – these are underground features where otters live. They can be tunnels within bank sides, underneath root plates or boulder piles, and even man-made structures such as disused drains. Holts are used by otters to rest up during the day and are the usual site of natal or breeding sites. Otters may use holts permanently of temporarily;
- couches – these are above ground resting-up sites. They may be partially sheltered, or fully exposed. Couches may be regularly used, especially in reed beds and on in-stream islands. They have been known to be used as natal and breeding sites. Couches can be very difficult to identify and may consist of an area

[7] Stace, C. A. (2010). *New Flora of the British Isles*, 3rd Edition. Cambridge University Press.

[8] Atherton, I. et al. (2010). *Mosses and Liverworts of Britain and Ireland: a field guide.* British Bryological Society.

[9] Dobson, F. S. (2011), *Lichens: An Illustrated Guide to the British and Irish Species,* 6th edition. The Richmond Publishing Co. Ltd, Slough.

[10] Biodiversity Condition Assessment Scoring Sheets Available online from http://publications.naturalengland.org.uk/

[11] Bang, P. & Dahlstrom, P. (2001). *Animal Tracks and Signs.* Oxford University Press, Oxford.

[12] Sargent, G & Morris, P. (2003). *How to Find and Identify Mammals.* 2nd Edition. The Mammal Society.

[13] Chanin, P. (2003) Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough

of flattened grass or earth. Where rocks or rock armour are used as couches, these can be almost impossible to identify without observing the otter in situ;

- prints – otters have characteristic footprints that can be found in soft ground and muddy areas;
- spraints – otter faeces are often used to mark territories, usually deposited on in-stream boulders. They can be present within or outside the entrances of holts and couches. Spraints have a characteristic smell and often contain fish remains;
- feeding signs – the remains of prey items may be found at preferred feeding stations. Remains of fish, crabs or skinned amphibians can indicate the presence of otter;
- paths – these are terrestrial routes that otters take when moving between resting-up sites and watercourses or during high flow conditions when they will travel along bank sides in preference of swimming; and
- slides and play areas – slides are typically worn areas on steep slopes where otters slide on their bellies, often found between holts / couches and watercourses. Play areas are used by juvenile otters in play and are often evident by trampled vegetation and the presence of slides. These are often positioned in sheltered areas adjacent to the natal holt.

2.2.3 Any of the above signs are diagnostic evidence of the presence of otter, however, it is often not possible to identify couches with confidence unless other field signs are also present. Spraint is the most reliable identifiable evidence of the presence of this species.

2.2.4 Any evidence of otter presence was recorded onto 1:10,000 scale survey maps in the field. The location of all signs was also recorded via the use of a handheld GPS and photographs taken to visually catalogue the record.

Badger (Meles meles)

2.2.5 Badger field signs that were searched for, as described in current guidance[14,15,16,17], included:

- setts;
- prints;
- latrines (and dung pits used as territorial markers);
- hairs; and
- feeding signs (snuffle holes).

2.2.6 Any of the above signs can be taken as diagnostic evidence of the presence of badger.

2.2.7 Any evidence of badger presence was recorded onto 1:10,000 scale survey maps in the field. The location of all signs was also recorded via the use of a handheld GPS and photographs taken to visually catalogue the record.

Red Squirrel (Sciurus vulgaris)

2.2.8 Through areas of woodland, signs of feeding and evidence of active squirrel dreys were recorded. Field signs that were searches for, as described in current guidance[18,19,20], included:

[14] Scottish Badgers (2018) Surveying for Badgers: Good Practice Guidelines, Version 1. Available online https://wwww.scottishbadgers.org.uk

[15] Neal, E. & Cheeseman, C. (1996). *Badgers. Poyser Natural History*, London

[16] Bang, P. & Dahlstrom, P. (2001). *Animal Tracks and Signs.* Oxford University Press, Oxford.

[17] Scottish Natural Heritage. (2002). *Badgers and Development. Scottish Wildlife Series*. SNH. https://www.snh.gov.uk/publications-data-and-research/publications/searchthe-catalogue/publication-detail/?id=65

[18] NatureScot (undated). Standing advice for planning consultants – red squirrel. Available from: https://www.naturescot/doc/standing-advice-planning-consultations-red-squirrels

[19] Gurnell, J., Lurz, P., McDonald, R., and Pepper, H. (2009) Practical techniques for surveying and monitoring squirrels. Forest Research, Surrey.

[20] Bang, P. & Dahlstrom, P. (2001). *Animal Tracks and Signs.* Oxford University Press, Oxford.

- dreys – comprised of an outer shell of twigs and branches, with an inner layer of mosses, leaves, grass and conifer needles. Dreys are usually built close to the main stem of a tree;
- feeding signs – can be stripped and nibbled conifer cones, split hazelnuts, nibbles fungus and berries; and
- prints – the forefoot has four long narrow toes with claws and its print is approximately 4 cm long and 2 cm wide. The hindfoot has 5 clawed toes and its print is approximately 5 cm long and 3 cm wide. The tracks lie close together in a jump group, with the fore-prints close together and behind the more widely spread hind-prints.

2.2.9 Any evidence of red squirrel presence was recorded onto 1:10,000 scale survey maps in the field. The location of all signs was also recorded via the use of a handheld GPS and photographs taken to visually catalogue the record.

Pine marten (Martes martes)

2.2.10 Pine marten signs that were searched for, as described in current guidance[21,22,23], included:

- scats – these are typically dark in colour and 4-12 cm long x 0.8-1.8 cm in diameter. They often have a coiled twisted appearance, typical of many mustelid scats. Scats will often contain food remains including fur, feathers, bone, plant content and seeds. Scats vary in size, shape and colour and it's difficult for even experts to identify some pine marten scats. Scats are placed in latrines at well-used dens, as well as at sites elsewhere in an individual's home range, where they probably fulfil a social communication role;
- footprints – the five-toes but slightly cat-like forefoot imprints measure approximately 40x45 mm for females and 55-65 mm for males; fur on the underside of the feet in winter may blur prints and make them look larger, especially in soft snow. Indistinct trails of bounding martens (stride length 60-100 cm) may resemble those of hares, with prints in groups of two or three where one or both hind feet have registered over prints of forefeet; and
- den sites – dens are usually not distinctive unless revealed by visible concentration of scats. Elevated den sites are preferred to keep martens safe from predators and provide insulation and shelter from the elements, and so hollow trees, owl boxes and the roofs of dwelling houses are often used as well as purpose-built pine marten den boxes. Where such elevated dens are absent, they may den on the ground in rabbit burrows, rocky outcrops or under tree root plates.

2.2.11 Any evidence of pine marten presence was recorded onto 1:10,000 scale survey maps in the field. The location of all signs was also recorded via the use of a handheld GPS and photographs taken to visually catalogue the record.

Bats

2.2.12 In accordance with relevant guidance[24,25,26], a ground level survey of trees and any structures present within a 100 m survey corridor was undertaken to record any structures that could be suitable for bats to roost in. A visual inspection of trees from ground level using binoculars and a high-powered torch was completed to search

[21] Birks, J. (2012) Pine marten. In: Crewsswell, W. J., Birks, J.D.S., Dean, M., Pacheco, M., Trewhella, W.J., Wells, D. and Wray, S. (2012). UK Guidance for Survey Methodologies, Impact Assessment and Mitigation. The Mammal Society, Southampton.

[22] Bang, P. & Dahlstrom, P. (2001). *Animal Tracks and Signs.* Oxford University Press, Oxford.

[23] NatureScot (undated). Standing Advice for planning consultants – Pine Marten. Available fromL https://www.nature.scot/doc/standing-advice-planning-consultations-pine-martens

[24] Collins, J. (Ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edn.). The Bat Conservation Trust, London. ISBN-978 - 1-7395126-0-6.

[25] Bat Tree Habitat Key (2018) Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-Care and Ecology Professionals. Exeter: Pelagic Publishing

[26] NatureScot, Natural England, Natural Resources Wales, RenewableUK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter, the Bat Conservation Trust, (2021) Bats and onshore wind turbines: Survey, Assessment and Mitigation. Available from: https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation/

for features which may provide potential roosting opportunities for bats. Where potential roost features (PRFs) were noted, their locations and a brief description of their character was recorded. Additionally, each feature was visually inspected for evidence indicating use by roosting bats such as droppings, urine staining, and scratch marks / characteristic staining (from fur oils).

2.2.13 PRFs in trees are generally damage and decay features such as knot holes, tear outs, cracks / splits, unions etc. which can often lead to cavity features forming which are used by bats. It is often unclear if a PRF at height has a suitable cavity or not for bats unless closer inspection is carried out such as endoscope survey or an aerial inspection. Ground level surveys therefore can only indicate the potential suitability of a PRF and highlight the requirement for further surveys if required.

2.2.14 Trees and buildings were searched for potential roost features (PRFs) from the ground and categorised as low, moderate or high in accordance with their suitability for roosting bats as described in **Table 5.1.1** below.

2.2.15 Based on the features present and the location of a given tree or structure, the potential for different types of bat roost was also considered. For the purpose of this assessment, potential roost types (where applicable) were grouped as follows:

- Summer / Maternity (breeding roost), optimal survey period May to August;
- Transitional (to include transitional, mating, satellite, night and day roosts), dependent on weather survey months are April, September and October; and
- Hibernation, optimal survey period December to February.

Bat Habitat Suitability

2.2.16 Habitats within the were assessed for their likely suitability to support foraging and commuting bats, taking account of guidance from the Bat Conservation Trust (BCT)[11], as summarised in **Table 5.1.1**. Any PRFs were recorded onto 1:10,000 scale survey maps in the field. The location of all signs and potential roost features was also recorded via the use of a handheld GPS and photographs taken to visually catalogue the record.

Table 5.1.1: Suitability Categorisation

Suitability	Description of Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low roost suitability or PRF-I	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and / or suitable surrounding habitats to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roost potential.	Habitat that could be used by small numbers of commuting bats such as a 'gappy' hedgerow or unvegetated stream, but isolated and not well connected to the surrounding landscape by other habitat. Suitable, but not isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate roost suitability	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessment in this table is made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High roost suitability or PRF-M	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitats. These PRFs could be used by a maternity colony.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree lined watercourses and grazed parkland. A site that is close to and connected to known roosts.

Water vole (Arvicola amphibius)

2.2.17 The methodology prescribed in Dean *et al*. (2016)[27] was followed in order to search for field signs of water vole. The signs searched for included:

- faeces – recognisable by their size, shape and content. If not too dried-out these are also distinguishable from rat droppings by their smell;
- feeding stations – food items are often brought to feeding stations along pathways and hauled onto platforms. Recognisable as neat piles of chewed vegetation up to 10 cm long;

[27] Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) The Water Vole Mitigation Handbook. The Mammal Society Mitigation Guidance Series. The Mammal Society, London.

- furrows – appear as a series of holes along the water's edge distinguishable from rat burrows by size and position;
- lawns – may appear as grazed areas around land holes;
- nests – where the water table is high, above ground woven nests may be found;
- footprints – tracks may occur at the water's edge and lead into bankside vegetation. May be distinguishable from rat footprints by size; and
- runways – low tunnels pushed through vegetation near the water's edge, less obvious than rat runs.

2.2.18 Any of the above signs can be taken as diagnostic evidence that water vole are present in the area. Any evidence of water vole presence was recorded onto 1:10,000 scale survey maps in the field. The location of all signs was also recorded via the use of a handheld GPS and photographs taken to visually catalogue the record.

Incidental Recordings

2.2.19 During surveys for the above species, if signs of other protected species (e.g. Scottish wildcat) or features of particular importance (i.e. potential reptile hibernacula) were encountered, these were also recorded.

Survey Limitations

2.2.20 The location of access tracks, both permanent and temporary, were defined following completion of detailed field surveys resulting in two sections of access track (both temporary), falling partially out with the habitat and protected species survey areas:

- One section of temporary access track from proposed pole 30 to the consented Achany Wind Farm Extension access track, where approximately 545 m of the track falls out with the surveyed area (see **Figure 3.1: Indicative Pole Schedule** for pole numbers). For this section, NVC survey data from the Achany Wind Farm Extension EIA was used to fill in habitat information gaps; and
- The second section of temporary access track that falls out with the surveyed area, connects from the B864 north of Shin substation, to proposed poles 205 to 207. Approximately 260 m of this access track falls out with the area surveyed. For this section, survey data that was collected during the high-level walkover of the various route options in August 2022 was used to fill in habitat information gaps.

2.2.21 There is potential for protected species (e.g. pine marten, red squirrel) to be present within these areas not surveyed. These survey gaps would be addressed through pre-construction surveys for protected species as detailed in paragraph 5.7.2. The Applicant's Species Protection Plans (SPPs), included in **Appendix 3.3: SSEN Transmission Species Protection Plans (SPPs)**, would be applied where any signs of protected species are found during the pre-construction surveys.

2.2.22 The habitat and faunal surveys provide a snapshot of ecological conditions at the time of survey and do not record plants or animals that may be resent in the Survey Area at different times of the year. The absence of a particular species cannot be confirmed by a lack of field signs and only concludes that an indication of its presence was not located during the survey effort.

3. RESULTS

3.1 Designated Sites

3.1.1 Four Special Area of Conservation (SAC) sites and one Ramsar site were identified within 10 km of the Proposed Development. Summaries of their citations are provided in **Table 5.1.2** and their locations shown on **Figure 5.1**: **Sites Designated for Nature Conservation**.

Table 5.1.2: Summary of Internationally Designated Sites

Site Name	Distance to Proposed Development	Description
Caithness and Sutherland Peatlands SAC (Site code: 8242), SPA (Site code 8476), Ramsar site (Site code 8412)	160 m	Designated for one of the best examples of blanket bog in the world, supporting many rare mosses and vascular plants. Qualifying habitats include: acid peat-stained lakes and ponds; blanket bog; clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels; depressions on peat substrates; very wet mires often identified by an unstable 'quaking' surface and wet heathland with Cross-leaved heath (*Erica tetralix*). Qualifying species include: Marsh saxifrage (*Saxifraga hirculus*) and Otter (*Lutra lutra*). The site also supports a broad range of important bird species, discussed in more detail in **Chapter 6: Ornithology.**
The River Oykel SAC (Site code 8363)	382 m	The site is a long, meandering river that flows into the Kyle of Sutherland, designated for the internationally important populations of Freshwater pearl mussel (*Margaritifera margaritifera*) and Atlantic salmon (*Salmo salar*).
Dornoch Firth and Morrich More SAC (Site code 8242)	7 km	This site is the most northerly large, complex estuary in the UK. The estuary is fed by the Kyle of Sutherland and contains an extensive area of mudflats and sandflats that support several specialist saltmarsh and salt meadow plant species and is also an important site for otter and common seal.
River Evelix SAC (Site code 8358)	9.4 km	Draining south east to the Dornoch Firth, the River Evelix is the only remaining small east coast river in Scotland that supports a surviving functional freshwater pearl mussel population.

Nationally Designated Sites

3.1.2 Potential effects on nationally designated sites are considered for all sites that fall within 5 km of the Proposed Development.

3.1.3 Two Sites of Special Scientific Interest (SSSI) were identified within 5km of the Proposed Development. Summaries of their citations are provided in **Table 5.1.3** and their locations shown on **Figure 5.1**.

Table 5.1.3: Summary of Nationally Designated Sites

Site Name	Distance to Proposed Development	Description
Grudie Peatlands SSSI (Site code 750)	160 m	Forming part of the Caithness and Sutherland Peatlands SAC, SPA and Ramsar site, Grudie Peatlands is designated for its important blanket bog habitat which lies in the watershed between Glen Cassley and Loch Shin. Containing a number of different blanket bog types, forming an extensive peatland habitat with bog pools and small lochans. The site is noted for the relative abundance of the nationally scarce dwarf birch (*Betula nana*) and a range of less common Sphagnum moss species such as *Sphagnum pulchrum*, *S. fuscum, S. imbricatum* and *S. magellanicum*. The site also supports a broad range of important bird species, discussed in more detail in **Chapter 6: Ornithology**.
Kyle of Sutherland Marshes SSSI (Site code 885)	490 m	Located along the floodplains of the River Oykel between Rosehall and Bonar Bridge, notified for nationally important floodplain plant communities, wet woodland and rare plants. The floodplain terraces are regularly inundated and support the best examples of floodplain fen habitat in Sutherland. This is a two-part site, the western section covers the area of the River Oykel between Altass and Linsidemore and the eastern section of the site covers the confluence with the River Shin.

Local Sites of Nature Conservation Interest

3.1.4 There are no Local Nature Reserves, wildlife sites or other local designated sites within 5 km of the Proposed Development.

3.1.5 The carbon and peatland map 2016 indicates that Class 1 and Class 2 peatland habitats are present within the Survey Area, particularly across the higher altitude plateaux areas in the northwest, as shown in **Figure 7.4: Peatland Classification**. Class 1 Peatland Habitat is defined as 'nationally important carbon rich soils, deep peat and priority peatland habitat – areas likely to be of high conservation'. Infrastructure for the Proposed Development has sought to avoid areas of Class 1 Peatland were possible. Poles 122 – 124, heading southeast of the A839 are located within an area of Class 1 peatland and poles 125 – 129 also run along the edge of the same area. Class 2 Peatland Habitat is defined as 'Nationally important carbon-rich soils, deep peat and priority peatland habitat – areas of potentially high conservation value and restoration potential'. The initial 3.9 km of OHL, from the Cable Sealing End Structure (CSE) to pole 51; the temporary access track between pole 30 and the consented Achany Wind Farm Extension track; and a 343 m section of OHL northwest of Linsidemore (poles 142 – 146) are located within areas recognised as Class 2 peatland. All other infrastructure avoids Class 1 and 2 peatland habitats.

3.1.6 Ancient woodland sites included on the Ancient Woodland Inventory (AWI) within 5 km of the Proposed Development are shown on **Figure 5.1: Sites Designated for Nature Conservation**. Ancient woodland types present include Category 1a and 2a of semi-natural origin; Category 1b and 2b long-established of plantation origin (LEPO) and Category 3 other woodlands on Roy woodland sites. Extensive areas of ancient woodland are present along Glen Cassley and within Shin Forest, along with smaller areas around Linsidemore. Although these areas of woodland are not afforded legal protection, Scottish Planning Policy considers that they are an irreplaceable resource of biological importance. The felling requirements for the Proposed Development include felling for the Operational Corridor (OC) to create a wayleave 72 m wide (i.e. 36 m either side of the OHL). No Category 1a, 2a, 1b or 2b AWI falls within the OC. An area of 0.77 Ha of Category 3, Roy woodland,

would require felling between poles 204 and 206 for the OC. This is an area of mature non-native conifer (Sitka spruce) plantation. A 346 m section of the permanent access track north of Linsidemore would be located within an area of 2b LEPO AWI which has previously been clear-felled and is now open ground habitat (see Target Note 57, **Appendix 5.1**).

3.1.7 Whilst not designated for nature conservation, three wind farm habitat management areas are located within proximity to the Proposed Development and are (or will be subject to finalisation) actively managed to promote biodiversity. The Achany Wind Farm Habitat Management Plan (HMP)[28] area is located north of the Proposed Development and has target species of both black grouse (*Tetrao tetrix*) and water vole (*Arvicola amphibius*). The Survey Area overlaps slightly with the Rosehall Wind Farm Conservation Management Plan (CMP) area. Black grouse (*Tetrao tetrix*) and greenshank conservation and habitat improvement are target aims for the Rosehall CMP[29]. The outline HMP area for the consented Achany Wind Farm Extension[30] is located to the northwest of the Survey Area and is still to be agreed with the local planning authority prior to development commencing.

3.2 Habitats

3.2.1 The following sections describe habitats identified within the HSA. A total of 1031 Ha of habitats were mapped within the HSA. The results of the habitat surveys are displayed in **Figure 5.2: UKHab Classification**, with Target Notes (TNs) providing further detail included in **Annex A**.

Grassland

- g1b6 – other upland acid grassland;
- g1c – bracken;
- g3 – neutral grassland;
- g3c8 – Holcus-Juncus neutral grassland.

3.2.2 Grassland habitats were not found extensively across the HSA. Acid grassland (comprising less than 1 % of the HSA), was found scattered throughout mire and heath habitats at higher altitudes, where stands were typically of unimproved acid grassland, characteristic of U5b *Nardus stricta – Galium saxatile grassland, Agrostis canina-Polytrichum* commune sub-community. At lower altitudes, areas of acid grassland tends to be more characteristic of U4a *Festuca ovina – Agrostis capillaris – Galium saxatile* grassland, typical sub-community.

3.2.3 Neutral grassland was limited to a field at the eastern edge of the HSA, close to Shin substation, comprising less than 1 % of the HSA. The field was grazed by horses at the time of survey and was characteristic of MG10a *Holcus lanatus – Juncus effusus* rush-pasture, typical sub-community, with scattered soft rush.

3.2.4 With the exception of small patches adjacent to the Rosehall Wind Farm access track, bracken was largely absent from the HSA between the Achany Wind Farm Extension on-site substation and the heathland area north of Linsidemore. Bracken was found in large stands adjacent to the heathland habitats north of Linsidemore and within the existing wayleave north of Shin substation. Bracken covers 3.6 % of the HSA, with stands representing *U20 Pteridium aquilinum – Galium saxatile* community. Outwith mapped stands, bracken was also found scattered throughout dry heath and around the margins of wet heath habitats north of Linsidemore, noted with UKHab Secondary Code 12.

Habitats of tall herb and fern are found around Shin substation, dominated by Rosebay willowherb (*Chamaenerion angustifolium*), mapped as g3 – neutral grassland, noted with UKHab Secondary Code 16.

[28] Applied Ecology (2020) Achany Wind arm Habitat Management Plan. Year 10 Review.
[29] Natural Power (2010) Rosehall Wind Farm Conservation Management Plan 123_R_NPC_EON_1_d04
[30] SSE (2021) Achany Wind Farm Extension Environmental Statement

Blanket bog (and bog pools)

- f1a5 – blanket bog

3.2.5 Comprising 6.8 % of the HSA, blanket bog habitat is found mostly in the north-west section of the HSA, with smaller amounts found in the central section. The majority of the blanket bog recorded within the HSA was considered to be modified through grazing and drainage and possibly other historic management practices such as burning resulting in some areas of where the sward has become impoverished. Blanket bog NVC communities recorded included M17a *Trichophorum germanicum-Eriophorum vaginatum* blanket mire, *Drosera rotundifolia-Sphagnum* species sub-community; M17b *Trichophorum germanicum-Eriophorum vaginatum* blanket mire, *Cladonia* species sub-community; M19 *Calluna vulgaris-Eriophorum vaginatum* blanket mire community. Within M17 blanket mire habitats, M2 *Sphagnum cuspidatum/fallax* bog pool community was occasionally found. Blanket mire habitats were also found in a fine scale mosaic with wet heath habitat in the north-west section of the HSA, with this particular habitat mosaic comprising 5 % of the HSA.

3.2.6 Peat hagging was present in some areas of blanket bog within the HSA, in particular around the Allt an Ràsail watercourse in the northwest section of the HSA. Peat cutting has been undertaken in an area south of the A839. One area of 'Near Natural' M17 blanket mire was identified during surveys, located at the edge of the HSA approximately 180 m south of where the Proposed Development crosses the A839 (see TN 39).

Degraded blanket bog

- f1a6 – degraded blanket bog

3.2.7 Comprising 1.7 % of the surveyed habitats, this habitat was predominantly comprised of M25a *Molinia caerulea–Potentilla erecta* mire, *Erica tetralix* sub-community with an impoverished *Sphagnum* bryophyte layer compared to M17 and M19 habitats. Also included in this habitat category is M20 *Eriophorum vaginatum* blanket mire. Both habitats have a tussocky sward, dominated either by Purple moor-grass (M25a) or Hare's tail cotton-grass (M20). Both habitats were also found in a mosaic with wet heath (M15), with this particular habitat mosaic comprising 1.6 % of the HSA.

Upland flushes, fens and swamps

- f2c – upland flushes, fens and swamps

3.2.8 Flushes identified within the HSA included M23b *Juncus effusus/acutiflorus-Galium palustre* mire, *Juncus effusus* subcommunity; M6c *Carex echinata-Sphagnum fallax* mire, *Juncus effusus* sub-community and M10a *Carex dioica-Pinguicula vulgaris* mire, *Carex viridula spp. Oedocarpa-Juncus bulbosus* sub-community. These habitats are considered to be potential GWDTE and are described further in **Table 5.1.5** below.

3.2.9 South of the A839 public road, within an open glade of the conifer plantation is an area of permanent inundation with a high coverage of bottle sedge (*Carex rostrata*). A proposed temporary access track runs close to the edge of this area and may need to be microsited to avoid disturbance to this habitat.

Dry heaths; upland

- h1b5 – dry heath, upland

3.2.10 Dominated by heather, this habitat is found on drier knolls throughout the HSA, in between areas of wet heath and bracken, comprising 6 % of the HSA. Some evidence of burning was found in the north-west section of the HSA, but absent from dry heath habitats in the area north of Linsidemore. Herbivore impacts were evident, with deer browsing and trampling widely evident across the HSA and sheep browsing north of Linsidemore. The most frequently encountered dry heath was H12 *Calluna vulgaris – Vaccinium myrtillus* heath, specifically the more species-poor H12a *Calluna vulgaris* sub-community which was found most commonly on gentle slopes and at the edges of watercourses, often in a mosaic with acid grassland and other heath communities. On

steeper ground which was rockier and well drained H10 *Calluna vulgaris – Erica cinerea* heath was found, typically in smaller extents to H12 *Calluna vulgaris – Vaccinium myrtillus* heath and was frequently transitional to or in a mosaic with H12 heath. Bracken was often found scattered throughout dry heath habitats north of Linidemore, along with occasional eared willow (*Salix aurita*) and juniper shrubs (*Juniperus communis*).

Wet heathland with cross-leaved heath; upland

- h1b6 – wet heathland with cross-leaved heath; upland

3.2.11 The most abundant open ground habitat in the HSA was wet dwarf shrub heath (NVC community M15); this covered an area of 247.79 Ha (24 % of the HSA). The most frequently recorded NVC sub-community was M15c *Trichophorum germanicum-Erica tetralix*, *Cladonia* species sub-community, a common community type in northern Scotland. This habitat had a relatively low diversity of vascular plants, typically with a short sward and was commonly interspersed with small rocky outcrops. The NVC community M15c was usually found on rocky areas where bare peat was visible through the open vegetation and was found most frequently in the north-west section of the HSA at higher altitudes. Sphagnum moss was limited within this sub-community, with Cladonia dominating the bryophyte layer. Smaller amounts of M15b, typical sub-community was present across the HSA, found on lower slopes and had a taller sward than M15c, often with a good coverage of purple moor-grass and bog myrtle. The M15b sub-community typically had patches of Sphagnum capilifolium in the bryohphyte layer, the coverage of which varied throughout different areas of this habitat. Wet heath habitats were also commonly found in a mosaic with degraded bog habitat and blanket bog habitat.

Woodland and Scrub

- w2 – coniferous woodland
- w2a – native pine woodland
- w2b – other Scot's Pine woodland
- w2c – other coniferous woodland
- w1g – other broadleaved woodland
- w1a – upland Oakland
- h3e – gorse scrub
- h3h – mixed scrub

3.2.12 Woodland habitat is widespread within the central and eastern sections of the HSA. Coniferous plantation woodlands (including recently felled) are the most commonly found, accounting for 34 % of habitats surveyed. Coniferous woodland plantations are south and east of Rosehall Wind Farm, Braemore Wood and Shin forest. The coniferous plantations at the western extent of woodland coverage in the HSA were typically dominated by Lodgepole pine (*Pinus contorta*) and were often found surrounded by wet heath and degraded bog habitats. These woodlands typically had poor growth and were yet to mature due to the wet ground conditions. In the central and eastern sections of the HSA, conifer plantation more typically comprised of Sitka spruce (*Pinus sitchensis*) and Larch (*Larix kaempferi*). Felled conifer woodland areas are found within Rosehall Wind Farm and throughout sections of Shin Forest.

3.2.13 Semi-natural conifer woodland is restricted to two small areas of Scot's pine (*Pinus sylvestris*) north of Durcha, characteristic of W18 *Pinus sylvestris-Hylocomium splendens* pinewood communities, with a heathy ground flora. Although of plantation origin, there is a 4 Ha stand of Scot's pine woodland in Shin forest identified on the NWSS as native pinewood, which has an understorey that is similar to the semi-natural areas of W18 woodland.

3.2.14 Semi-natural broadleaved woodlands are not common within the HSA and are restricted to four areas: a small patch south of Loch Doire a' Chatha, along the banks of the Allt a' Mhadaidh-ruaidh, within the wayleave north of Shin substation and along the eastern banks of the River Shin, southeast of the Shin substation.

3.2.15 Scattered conifer trees are also found in abundance across Rosehall Wind Farm deforested areas, adjacent to plantation woodland on the south side of the A839 and north of Linsidemore.

3.2.16 Areas of new woodland creation are found within in Glen Rossal, south-west of Braemore Wood and on the western edge of Shin Forest. The planted areas range in age between 9 and 24 years since planting. The planting areas are a combination of Scot's pine and native broadleaves, including birch (*Betula pubescens*), rowan (*Sorbus aucuparia*), alder (*Alnus glutinosa*). The plantings are protected by either fencing or tree tubes.

3.2.17 Scrub habitat was rare within the HSA, accounting for 0.1 % of the habitats surveyed, found around Shin substation and adjacent to the Rosehall Wind Farm access track.

Rivers and lakes

3.2.18 Several watercourses cross the HSA and drain to the Kyle of Sutherland. Watercourses include the Allt Bad an t-Segairt, Allt an Ràsail, Allt Mor and River Shin along with several smaller unnamed tributaries. Waterbodies within the HSA are limited to one small lochan found in Glen Rossal estate and Loch Doire a' Chatha at Rosehall Wind Farm.

Other

- u1b – developed land, sealed surface
- u1c – artificial unvegetated, unsealed surface
- u1e – built linear features
- u1b5 – buildings

3.2.19 Buildings, gardens, tracks, roads and bare ground account for approximately 1 % of the HSA.

Invasive Non-Native Plant Species (INNS)

3.2.20 A small number of individual *Rhododendron ponticum* plants were identified within the HSA, within open heath habitats in Glen Rossal and across Rosehall Wind Farm (see TN 18). No other invasive non-native species were recorded within the HSA.

Notable Plant Species

3.2.21 Several juniper shrubs (*Juniperus communis*) were found across the open heath habitats north of Linsidemore (see TNs 27, 47, 62). Juniper is a UK BAP and LBAP Priority Species due to its significant decline across the UK in recent decades.

UKHab Secondary Codes

UKHab secondary codes, as described in Version 2.0, that were recorded during the UKHab survey and mapped on **Figure 5.2: UKHab Classification** are:

- 10 – scattered scrub;
- 12 – scattered bracken;
- 14 – scattered rushes;
- 15 – rushes dominant;
- 16 – tall forbs;
- 29 – plantation;
- 30 – semi-natural woodland;
- 32 – scattered trees;
- 103 – horse grazed;

- 201 – young trees;
- 206 – felled; and
- 406 – swamp.

3.2.22 Priority habitats recorded across the HSA are detailed in **Table 5.1.4** below and displayed on **Figure 5.3: NVC of Priority Habitats**.

Table 5.1.4: Priority Habitats

UKHab	NVC Community	Conservation Status	Distribution within HAS
f1a5 blanket bog	M17; M19	SBL Habitat: Blanket bog; LBAP Habitat: Peatland and wetland Annex I Habitat: 7130 Blanket bogs	Found across open ground in the north-west section of the HSA and in smaller scattered patches south of the A839, covering approximately 9 % of the HSA.
f1a6 degraded blanket bog	M25; M20	SBL Habitat: Blanket bog LBAP Habitat: Peatland and wetland	Found across open ground in the north-west section of the HSA and in smaller scattered patches south of the A839, covering approximately 3 % of the HSA.
f2c upland flushes, fens and swamps	M6; M23; M10	SBL Habitat: Upland flushes, fens and swamps LBAP Habitat: Peatland and wetland	Infrequent throughout the HSA, small areas of flush habitat are found alongside watercourses / ditches and scattered throughout mire and heath habitats. Those dominated by rushes (M6 and M23) are found as discrete linear flushes alongside watercourses / ditches and forestry plantation blocks. Two M6 flushes are oversailed by the proposed OHL but no poles are proposed for these areas. Base rich stoney flushes (M10) are found occasionally within the HSA and are small (less than 0.01 Ha). No poles are proposed for these areas.
h1b5 dry heaths; upland	H10; H12	Annex I Habitat: 4030 European dry heaths SBL Habitat: Upland heathland LBAP Habitat: Upland and moorland	Found in drier areas of the HSA, throughout Rosehall Wind Farm and north of Linsidemore, covering approximately 2 % of the HSA. This habitat occasionally is scattered with conifer trees and shrubs (native and non-native). The habitat shows evidence of herbivore effects from browsing and trampling.

UKHab	NVC Community	Conservation Status	Distribution within HAS
h1b6 wet heathland with cross-leaved heath; upland	M15	Annex I Habitat: 4010 Northern Atlantic wet heaths with Erica tetralix SBL Habitat: Upland heathland LBAP Habitat: Upland and moorland	Widespread throughout the HSA and surrounding areas, covering approximately 27 % of the HSA. Often found in fine-scale mosaic with blanket bog and degraded bog habitats, particularly in the north-west section of the HSA between the Achany Wind Farm Extension on-site substation and Rosehall Wind Farm. Habitats show evidence of herbivore effects from browsing and trampling.
w2b other Scots pine woodland	W18	SBL Habitat: Native pine woodlands LBAP Habitat: Woodland and forest	A single stand of Scot's pine woodland within Shin Forest, out with felling areas for the OC. The stand is mature of plantation origin, noted as Native Pinewood on the NWSS, with an understorey characteristic of *W18 Pinus sylvestris – Hylocomium splendens* woodland.
r2 Rivers and lakes	N/A	SBL Habitat: Rivers LBAP Habitat: Freshwater: rivers, burns and lochs	Several watercourses cross the HSA and drain to the Kyle of Sutherland. Watercourses include the Allt Bad an t-Segairt, Allt an Ràsail, Allt Mor and River Shin along with several smaller unnamed tributaries.

GWDTE

3.2.23 The NVC survey identified the presence of five plant communities that are potential GWDTEs within the HSA; these are summarised in **Table 5.1.5** below and displayed on **Figure 5.4: Potential GWDTE.** Further information of the assessment of GWDTEs is provided in **Chapter 7: Geology, Hydrology and Hydrogeology.**

Table 5.1.5: Potential GWDTE

NVC Community	Potential Groundwater Dependency (SEPA, 2017)	Distribution within HAS
M23b *Juncus effusus/acutiflorus-Galium palustre* mire, *Juncus effusus* subcommunity	High	Infrequent within the HSA, comprising <0.1 % of surveyed habitats. Found within proximity to the Allt an Ràsail watercourse and Loch Doire a' Chatha. The closest proposed infrastructure is 57 m (proposed permanent access track).

NVC Community	Potential Groundwater Dependency (SEPA, 2017)	Distribution within HAS
M6c *Carex echinata-Sphagnum fallax* mire, *Juncus effusus* sub-community	High	Infrequent within the HSA, comprising <0.1 % of surveyed habitats. Found adjacent to conifer plantations southeast of Rosehall Wind Farm. The closest proposed infrastructure is 18 m (proposed pole location).
M10a *Carex dioica-Pinguicula vulgaris* mire, *Carex viridula spp. Oedocarpa-Juncus bulbosus* sub-community	High	Small, discrete areas scattered throughout heath and mire habitats. With individual areas less than 0.01 Ha, these areas are too small to map and have instead been target noted (see TNs 9, 15, 20, 66). No poles are proposed within this habitat.
M15b *Trichophorum cespitosum-Erica tetralix* wet heath, typical subcommunity; M15c *Trichophorum cespitosum-Erica tetralix* wet heath, *Cladonia spp.* subcommunity; M15d *Trichophorum cespitosum-Erica tetralix* wet heath, *Vaccinium myrtillus* subcommunity.	Low - Moderate	Widespread throughout the central and western sections of the HSA, comprising approximately 30 % of surveyed habitats.

3.3 Protected Species

3.3.1 Protected species surveys undertaken within 250 m of the Proposed Development for otter, water vole, badger, red squirrel and pine marten and within 100 m for structures with potential to support roosting bats identified signs of otter, water vole, red squirrel, pine marten and bats within proximity to the Proposed Development. The location of signs are displayed on **Figure 5.5: Protected Species Records**.

Red Squirrel

3.3.2 Woodland suitable for supporting red squirrel is found through the central and eastern end of the PSA. Red squirrel foraging signs were found scattered throughout stands of conifer plantations in Shin Forest and north of Linsidemore, no dreys were found during the surveys.

Otter

3.3.3 Several watercourses within the PSA were suitable for supporting foraging otters and there is potential for otters to have resting sites (couches and holts) within proximity to these suitable watercourses. Otter spraint was found along the Allt an Ràsail watercourse and one of the unnamed tributaries of the River Cassley, northeast of Rosehall. One potential resting location (couch) was found on along the Allt an Ràsail watercourse, 230 m from the nearest infrastructure component (proposed pole location). The location of the otter resting location is displayed in a separate confidential figure, **Figure 5.5 f: Protected Species Records – Confidential**.

Water Vole

3.3.4 Water vole habitat within the PSA was widespread, particularly in the northwest section and scattered throughout the central section. Water vole burrows were found near the Allt an Ràsail watercourse, 118 m from

the nearest infrastructure component (proposed new permanent access track). A total of 14 burrow were identified, all considered to be part of the same colony, with signs of recent activity.

Bats

3.3.5 A single structure was identified as having suitability for roosting bats within the BSA. A stone building, located 38 m from the nearest infrastructure component (a proposed temporary access track), provides potential roosting opportunities and a small number of bat droppings were identified on the exterior of the building. Due to the distance of the building with Potential Roost Features (PRFs) to the temporary access track (greater than 30 m disturbance distance for bat roosts), no internal checks or emergence/re-entry bat surveys were undertaken as it will be assumed that the building contains a bat roost. No PRFs were identified within the OC felling area or 30 m buffer.

3.3.6 No signs of, or features supporting, other protected species were identified during the baseline surveys.

ANNEX A – TARGET NOTES

Table 5.1.6: Habitat Target Notes

Target Note	Grid Reference	Description	Photograph
1	NC 46414 08806	View south from approximate location of the consented Achany Wind Farm Extension on-site substation across wet dwarf shrub heath (M15c *Trichophorum germanicum-Erica tetralix*, *Cladonia* species sub-community) along the route of the proposed UGC to the CSE compound.	

Target Note	Grid Reference	Description	Photograph
2	NC 45901 07709	Rush dominated habitat along edge of Allt an Rasàil characteristic of M23b *Juncus effusus/acutiflorus-Galium palustre* mire, *Juncus effusus* subcommunity, a habitat with High potential to be GWDTE.	
3	NC 45709 07838	Small bog pools are found infrequently within mire and heath habitats within the HSA. None were found immediately adjacent to proposed pole or track locations.	

Target Note	Grid Reference	Description	Photograph
4	NC 46003 07778	Peat hagging and active erosion evident close to the Allt an Rasàil watercourse, at edge of boundary with Caithness and Sutherland Peatlands SAC, SPA, Ramsar and Grudie Peatlands SSSI.	
5	NC 45946 07613	Allt an Rasàil watercourse runs through the HSA and is a tributary of the River Cassley and River Oykel SAC.	

Target Note	Grid Reference	Description	Photograph
6	NC 46013 07890	Small patches of gorse scrub (*Ulex europaeus*) are found along the banks of the Allt an Rasàil watercourse at its northern extent within the HSA.	
7	NC 46080 07398	M17 blanket bog is found frequently within the north-west section of the HSA. This habitat consists of a combination of hare's-tail cottongrass (*Eriophorum vaginatum*), deergrass (*Trichophorum germanicum*), heather (*Calluna vulgaris*)	

Target Note	Grid Reference	Description	Photograph
8	NC 45997 07365	Small patches of M6a flush can be found within mire and heath habitats in the north-west section of the HSA. The sward is typically short, with scattered *Carex echinata* and *Carex panicea*.	
9	NC 46086 07154	Within the mire and wet heath habitats across the north-west section of the HSA are occasional small discrete base rich flushes, characteristic of M10a *Carex dioica-Pinguicula vulgaris* mire, *Carex viridula spp. Oedocarpa-Juncus bulbosus* sub-community.	

Target Note	Grid Reference	Description	Photograph
10	NC 46259 06752	View north-west along proposed OHL route across extensive wet heath and mire habitats.	
11	NC 45760 07532	Within M15 wet heath habitats across the north-west section of the HSA are occasional small linear runnels, usually with pondweed (*Potamogeton spp.*).	

Target Note	Grid Reference	Description	Photograph
12	NC 46437 06547	View south to a deer fenced enclosure with a new native woodland. This area is at the edge of the HSA and will be avoided by the Proposed Development.	
13	NC 47424 05929	Evidence of historical drainage across the HSA in Glencassley and Glenrossal Estates in heath and mire habitats, presumably to improve grazing conditions for deer.	

Target Note	Grid Reference	Description	Photograph
14	NC 46630 06174	Waterbodies within the HSA are limited to this unnamed lochan, east of the new woodland planting enclosure and Loch Doire a' Chatha (see TN 26).	
15	NC 47465 05107	As target note 11.	

Target Note	Grid Reference	Description	Photograph
16	NC 47269 05197	View north-west along the route of the proposed OHL across wet heath and mire habitats.	
17	NC 47536 04910	Pooling water within 30 m of a proposed pole location.	

Target Note	Grid Reference	Description	Photograph
18	NC 47639 04638	A small number of individual *Rhododendron ponticum* plants were identified within the HSA, within open heath habitats in Glen Rossal and across Rosehall Wind Farm. No other invasive non-native species were recorded within the HSA.	
19	NC 48010 04376	At Rosehall Wind Farm site boundary, the proposed OHL traverses an area previously felled as part of the wind farm conservation management plan (CMP) approximately 14 years ago. The trees have been felled whole and remain on the surface of the vegetation.	

Target Note	Grid Reference	Description	Photograph
20	NC 47818 04701	Small bog pools are occasional within blanket bog habitat within Glen Rossal estate.	
21	NC 48152 04234	As the proposed OHL traverses east across the Rosehall Wind Farm CMP area, vegetation is recovering post-felling, with Sphagnum moss evident in the old plough furrows.	

Target Note	Grid Reference	Description	Photograph
22	NC 48201 04165	Bog pools are occasional within the heath and mire habitats across the Rosehall Wind Farm CMP area. These are further than 60 m from the proposed OHL alignment.	
23	NC 48315 04097	Old forestry furrow holding water adjacent to Lodgepole pine conifer plantation.	

Target Note	Grid Reference	Description	Photograph
24	NC 48775 03824	The proposed OHL traverses through conifer plantation within Rosehall Woods, south of the turbines. The plantation is predominantly Lodgepole pine over drained wet heath, with wet modified bog in wetter areas and dry heath on better drained soils / shallower peat.	
25	NC 49159 03646	Open rides within the Rosehall Woods plantation are predominantly wet heath, with variable purple moor-grass cover.	

Target Note	Grid Reference	Description	Photograph
26	NC 48994 03940	View east to Loch Doire a' Chatha. The loch is located 180 m from the nearest proposed pole location.	
27	NC 49011 03845	Scattered juniper shrubs (*Juniperus communis*) were found across the open heath habitats south of Rosehall Wind Farm turbines. Juniper is a UK BAP and LBAP Priority Species due to its significant decline across the UK in recent decades.	

Target Note	Grid Reference	Description	Photograph
28	NC 49424 03709	View east across Rosehall Wind Farm Conservation Management Plan (CMP) area, with a mosaic of wet heath habitat and conifer sapling regeneration across the previously deforested ground.	
29	NC 50132 03659	The proposed OHL would traverse this area of regenerating conifer saplings.	

Target Note	Grid Reference	Description	Photograph
30	NC 50192 03529	Area of rush dominated acid flush (M6c *Carex echinata-Sphagnum fallax* mire, *Juncus effusus* sub-community) at the edge of a conifer plantation. This is a habitat with High potential to be GWDTE. The proposed OHL will oversail this flush, with the closest proposed pole located 18 m from the flush.	
31	NC 50610 03153	Rosehall Wind Farm access track would be utilised by the Proposed Development for access. Sitka spruce plantation is found adjacent to the access track.	

Target Note	Grid Reference	Description	Photograph
32	NC 50814 02823	The Proposed OHL would traverse areas of previously deforested conifer plantation adjacent to the Rosehall Wind Farm access track.	
33	NC 51122 02495	As above.	

Target Note	Grid Reference	Description	Photograph
34	NC 51638 02333	Forming part of the Rosehall Wind Farm CMP, native trees have been planted in tree tubes within the riparian zone adjacent to Allt a' Mhadaidh-ruaidh watercourse. These trees should be not be disturbed by the Proposed Development as they are within the 10 m watercourse buffer.	
35	NC 51853 01788	View north along the Allt Loch an Fheòir watercourse with birch, sitka spruce, lodgepole pine and rowan along the watercourse edges. South of this location, the proposed OHL crosses the A839 public road.	

Target Note	Grid Reference	Description	Photograph
36	NC 52308 01680	South of the A839 public road, within an open glade of the conifer plantation is an area of permanent inundation with a high coverage of bottle sedge (*Carex rostrata*). A proposed temporary access track runs close to the edge of this area and may need to be microsited to avoid disturbance to this habitat.	
37	NC 52267 01569	Historical drainage is evident within blanket bog habitats south of the A839 along with scattered non-native conifer regen from the adjacent plantation.	

Target Note	Grid Reference	Description	Photograph
38	NC 52361 01463	Historical drainage and peat cutting evident in blanket bog habitats south of the A839.	
39	NC 52184 01463	Close to the western edge of the HSA in the area of blanket bog south of the A839, bog pools become more frequent and the effects of historical peat cutting and drainage become minimal. This area is the least disturbed / degraded area of blanket bog within the HSA. No infrastructure is proposed within this area of minimally disturbed blanket bog, with the nearest proposed pole located a minimum of 100 m away.	

Target Note	Grid Reference	Description	Photograph
40	NC 52433 01432	Looking west from the HSA across blanket bog habitats to the unnamed lochan south of the A839, located out with the HSA.	
41	NC 52420 01263	As the proposed OHL alignment continues south-east from the A839, it crosses an area of acid grassland with a high rush coverage (*Juncus effusus*).	

Target Note	Grid Reference	Description	Photograph
42	NC 52457 01214	A small area north of the cottage and farm buildings west of Braemore Wood, a small (<0.1 Ha) wetland area of bottle sedge (Carex rostrata) over *Sphagnum palustre*.	
43	NC 52457 01078	Existing track leading to a small cottage and farm buildings within the HSA south-east of the A839. It is proposed to utilise this existing track for access for the Proposed Development.	

Target Note	Grid Reference	Description	Photograph
44	NC 52505 01076	Small cottage and farm buildings within the HSA. Cottage has moderate bat roost potential but is out with the disturbance distance as the Proposed Development is more than 30 m from the buildings.	
45	NC 52622 01057	The existing track continues as a rough path leading toward the conifer plantation east of the cottage and farm buildings. This track is proposed to be upgraded as a temporary access track as part of the Proposed Development.	

Target Note	Grid Reference	Description	Photograph
46	NC 52719 01042	View over acid grassland south of the proposed temporary access track.	
47	NC 52908 01042	Adjacent to the proposed temporary access track is several scattered juniper shrubs. Juniper is a UK BAP and LBAP Priority Species due to its significant decline across the UK in recent decades.	

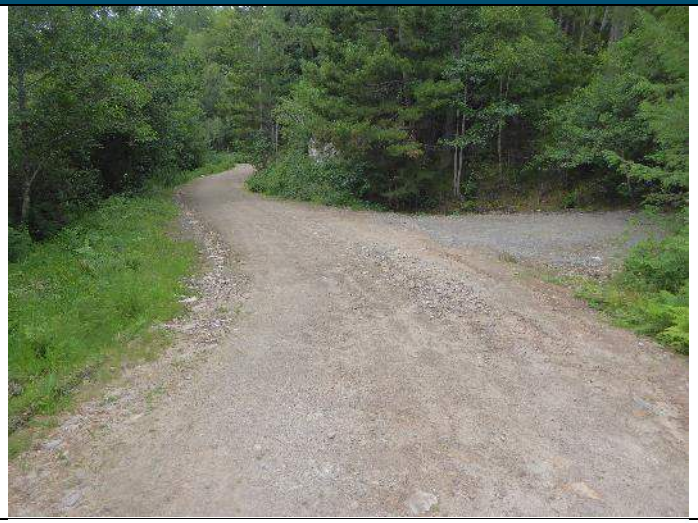
Target Note	Grid Reference	Description	Photograph
48	NC 53021 00986	View south over a young (planted 2015) mixed species native woodland plantation which the proposed OHL would traverse. Species planted include birch (*Betula pubescens*), rowan (*Sorbus aucuparia*), alder (*Alnus glutinosa*) and Scot's pine (*Pinus sylvetris*).	
49	NC 53500 00700	As the proposed OHL continues east into the open ground north of Linsidemore, blanket bog and wet heath habitats become frequent, often with scattered non-native conifer regen.	

Target Note	Grid Reference	Description	Photograph
50	NC 53590 00598	Dry heath habitat is found in the better drained soils and areas of shallower peat north of Linsidemore, with non-native conifer regen frequent.	
51	NC 53740 00506	A small unnamed tributary of the River Oykel SAC crossed by the proposed OHL.	

Target Note	Grid Reference	Description	Photograph
52	NC 53932 0400	Another small unnamed tributary of the River Oykel SAC crossed by the proposed OHL. On the drier banks of the watercourse, bracken becomes a frequent feature in between the heath habitats.	
53	NC 54175 00355	Small shrubs of eared willow (*Salix aurita*) is found scattered throughout sections of the open ground north of Linsidemore.	

Target Note	Grid Reference	Description	Photograph
54	NC 53975 00177	View north-west across wet heath habitat (M15b) with scattered conifers (both Scot's pine and Sitka spruce) that would be traversed by the proposed OHL.	
55	NC 54215 00019	Within wet heath habitat (M15b), bog myrtle (*Myrica gale*) became locally abundant in wetter hollows and around watercourses.	

Target Note	Grid Reference	Description	Photograph
56	NH 54123 99594	Bracken is the predominant feature of the forestry rides throughout the conifer plantation around Linsidemore.	
57	NH 54191 99676	Where the proposed new permanent access track would traverse a felled area. The recovering vegetation is a mosaic of bracken and acid grassland, dominated by wavy hair-grass (*Deschampsia flexuosa*), with scattered heather. This felled area is included in the Ancient woodland inventory (AWI) and Category 2b Long-established of plantation origin (LEPO).	

Target Note	Grid Reference	Description	Photograph
58	NH 54346 99482	Existing forestry track from Linsidemore that would be utilised as part of the Proposed Development.	
59	NH 54583 99908	View south-east from HSA to extensive area of bracken and young larch plantation below.	

Target Note	Grid Reference	Description	Photograph
60	NH 54687 99873	Unnamed tributary of the River Oykel SAC that is crossed by the proposed OHL. In this location the non-native conifers (Sitka spruce) are dense and there are scattered rowan trees along the watercourse banks.	
61	NH 54889 99845	Within M15 wet heath and M25a mire habitats north of Linsidemore, small linear runnels can be found occasionally, usually with pondweed (*Potamogeton spp.*).	

Target Note	Grid Reference	Description	Photograph
62	NH 55141 99630	Scattered juniper shrubs (*Juniperus communis*) were found across the open heath habitats north of Linsidemore. Juniper is a UK BAP and LBAP Priority Species due to its significant decline across the UK in recent decades.	
63	NH 55322 99386	At the western boundary of Shin Forest is another small area of M23b *Juncus effusus/acutiflorus-Galium palustre* mire, Juncus effusus subcommunity, a habitat with High potential to be GWDTE. Bracken has encroached around the drier edges of the flush.	

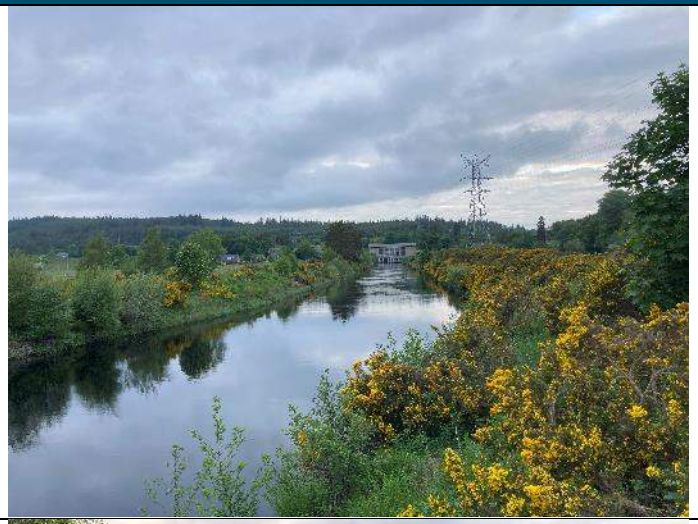
Target Note	Grid Reference	Description	Photograph
64	NH 55400 99219	At the western edge of Shin Forest is an area of native woodland planting, planted in tree tubes, consisting predominantly of alder and birch. Herbivore browsing on these trees are moderate to high, with a moderate rate of tree failure.	
65	NH 55606 99192	Moving further east toward the mature Sitka spruce plantations within Shin Forest is another native woodland planting area, where Scot's pine is the only planted species. Browsing pressure on these trees is less than the adjacent alder and birch planting noted above.	

Target Note	Grid Reference	Description	Photograph
66	NH 55559 99114	Within the native woodland planting areas are occasional small discrete base rich flushes, characteristic of M10a *Carex dioica-Pinguicula vulgaris* mire, *Carex viridula spp. Oedocarpa-Juncus bulbosus* sub-community.	
67	NH 55965 99114	Existing track through Shin Forest that would be utilised by the Proposed Development.	

Target Note	Grid Reference	Description	Photograph
68	NH 56121 98437	View south-east along the route of the proposed OHL alignment across felled woodland where wavy hair-grass and bracken has recolonised over brash.	
69	NH 56483 98158	Recently felled conifer woodland north of the existing track through Shin forest.	

Target Note	Grid Reference	Description	Photograph
70	NH 56860 97892	On the south side of the existing track through Shin Forest, mature and well thinned Larch plantations and dense Sitka spruce plantations will be traversed by the proposed OHL.	
71	NH 57165 97715	At the eastern end of Shin Forest, the proposed OHL would traverse an area of Roy Wood (Category 3 on AWI) between poles 204 and 206. This would be through an area of mature non-native (Sitka spruce) plantation.	

Target Note	Grid Reference	Description	Photograph
72	NH 57056 97547	Neutral grassland was limited to a field at the eastern edge of the HSA, close to Shin substation, comprising less than 1 % of the HSA. The field was grazed by horses at the time of survey and was characteristic of MG10a *Holcus lanatus – Juncus effusus* rush-pasture, typical sub-community, with scattered soft rush.	
73	NH 57242 97528	Gorse scrub can be found beneath the felled existing OHL wayleave that connects into Shin Substation from the north.	

Target Note	Grid Reference	Description	Photograph
74	NH 57358 97278	Extensive gorse scrub along the banks of the canalised section of the River Shin that exits the Shin Substation.	
75	NH 57377 97304	Extensive areas of rosebay willowherb is frequent alongside gorse adjacent to the tracks south of Shin Substation.	

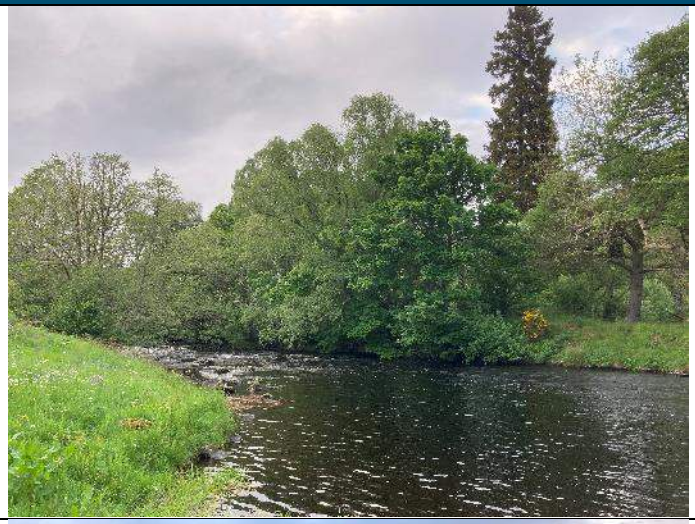
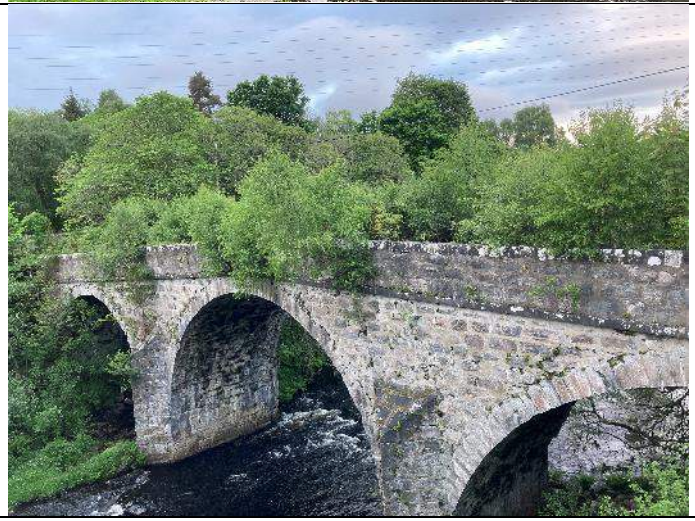
Target Note	Grid Reference	Description	Photograph
76	NH 57408 97408	Semi-natural woodland along the east banks of the River Shin at the south-eastern extent of the HSA. There is a mixture of mature oak (*Quercus petraea*), ash (*Fraxinus excelsior*), alder, sycamore (*Acer pseudoplatanus*), Norway spruce (*Picea abies*), Douglas fir (*Pseudotsuga menziesii*) and birch.	
77	NH 57487 97555	Birch and gorse scrub habitat has recolonised the disused arched stone bridge over the River Shin.	

Table 5.2.7: Protected Species Survey Records

Target Note	Grid Reference	Species	Description	Photograph
1	NC 45938 07838	Water vole	14 water vole burrows located along the banks of the Allt an Ràsail watercourse. The burrows were active at the time of survey and all considered to be part of the same colony. The burrows are located 118 m from the nearest proposed infrastructure (proposed temporary access track).	 
2	NC 45925 07842			
3	NC 45900 07843			
4	NC 45882 07829			

Target Note	Grid Reference	Species	Description	Photograph
5	NC 46175 06575	Otter	Otter couch located on the banks of the Allt an Ràsail watercourse, 230 m from the nearest infrastructure component (proposed pole location).	

Target Note	Grid Reference	Species	Description	Photograph
6	NC 46190 06591	Otter	Spraint located upstream of otter couch on Allt an Ràsail watercourse.	
7	NC 48220 03813	Otter	Spraint on banks of watercourse south of Rosehall Wind Farm.	

Target Note	Grid Reference	Species	Description	Photograph
8	NC 48270 03786	Pine marten	Scat on forestry track south of Rosehall Wind Farm.	

Target Note	Grid Reference	Species	Description	Photograph
9	NC 50450 03302	Pine marten	Scat on wind farm access track.	
10	NC 50612 03149	Pine marten	Scat on wind farm access track.	
11	NC 50657 03101	Pine marten	Scat on wind farm access track.	
12	NC 50453 03003	Pine marten	Scat within forestry ride.	

Target Note	Grid Reference	Species	Description	Photograph
13	NC 51710 02413	Pine marten	Prints along wind farm access track.	

Target Note	Grid Reference	Species	Description	Photograph
14	NC 51868 02001	Pine marten	Scat within forestry ride.	
15	NC 52945 01016	Pine marten	Scat along path.	
16	NC 53250 01061	Pine marten	Scat along path.	
17	NC 53467 00995	Pine marten	Scat along track.	
18	NC 53522 00990	Pine marten	Scat along track.	

Target Note	Grid Reference	Species	Description	Photograph
19	NH 54027 99463	Red squirrel	Foraging signs within woodland.	

Target Note	Grid Reference	Species	Description	Photograph
20	NH 53988 99513	Red squirrel	Foraging signs within woodland.	
21	NH 54043 99553	Red squirrel	Foraging signs within woodland.	
22	NH 56007 98566	Pine marten	Scat on track.	
23	NH 56078 98397	Pine marten	Scat on track.	
24	NH 56223 98312	Pine marten	Scat in forestry opening.	

Target Note	Grid Reference	Species	Description	Photograph
25	NH 56642 98013	Red squirrel	Foraging signs within woodland.	

Target Note	Grid Reference	Species	Description	Photograph
26	NH 56724 97897	Red squirrel	Foraging signs within woodland.	

Target Note	Grid Reference	Species	Description	Photograph
27	NH 57009 97995	Pine marten	Scat within forestry opening