



Outline Habitat Management & Maintenance Plan

Scout Moor II Further Environmental Information

June 2026



Technical Report

Outline Habitat Management and Monitoring Plan (HMMP)

Scout Moor II Wind Farm

Cubico Wind Development (Wind 1) Ltd



your project our expertise

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1. Introduction

1.1 Terms of Reference

This outline Habitat Management and Monitoring Plan (HMMP) has been prepared by Atmos Consulting on behalf of Cubico UK Development (Wind 1) Limited ('the Applicant' or 'Cubico'). It is submitted as part of Further Environmental Information in respect of the cross-boundary applications for full planning permission ('the Applications') relating to the construction and operation of a new onshore wind farm (to be known as 'Scout Moor II'), alongside a comprehensive moorland restoration scheme (the 'Proposed Development'), on land at Rooley Moor ('the Site').

The Site crosses the administrative boundaries of Rossendale Borough Council ('RBC') and Rochdale Metropolitan Borough Council ('RMBC') (collectively referred to as 'the Councils'). The Councils are the Local Planning Authorities ('LPA's') responsible for the determination of the Applications, which were originally submitted on 23 July 2025 and were validated by the Councils on 07 August 2025 (RBC ref. 2025/0267 and RMBC ref. 25/00680/FUL).

Following the completion of an extended period of statutory consultation on the Applications, the Applicant has evolved the Proposed Development to respond to comments received from statutory and non-statutory consultees, the public and other interested stakeholders and is hereby formally amending the Applications through the submission of Further Environmental Information ('FEI'). The FEI supersedes the information submitted in July 2025 ('the 2025 Submission') and will be subject to further statutory consultation by the Councils. A summary of the amendments to the Applications is set out in detail the Planning, Design and Access Statement (prepared by Turley), but in summary includes the reduction in turbine numbers from 'up to 17 turbines' to 'up to 12 turbines', alongside the relocation/repositioning of turbine positioning, access track layout and the layout and design of other associated infrastructure.

The HMMP will be finalised following the completion of the planning process and agreed with RBC and RMBC pursuant to an obligation of the Section 106 Legal Agreement. As such this document is regarded as an Outline HMMP.

1.2 Site Details and Project Description

The Site extends to 1,023.34ha of land, spanning the administrative boundaries of Rossendale Borough Council (RBC) (623.7ha) and Rochdale Metropolitan Borough Council (RMBC) (399.64ha). The Site has an approximate central national grid reference of SD 85570 18022.

The Site comprises upland habitat, predominately open unenclosed moorland with fields to the south of the Site bounded by dry stone walls that are under agricultural management. A series of existing wind turbines lie adjacent west of the Site with some present in the northwest extent of the Site itself, comprising Scout Moor Wind Farm.

The Proposed Development comprises 12 turbines, of up to 180m in height (above ground level) to tip.

Associated infrastructure includes hard standing areas for erecting cranes at each turbine location, on-site access tracks and turning heads, an on-site substation and control building, underground 33kV electrical cables to connect the turbines to the on-site substation, underground 132kV electrical cables to connect the on-site substation to the Rossendale Bulk Supply Point (2no. route options proposed) and a temporary construction compound and laydown area. The lifetime of the Proposed Development would be time limited to 40 years from the date of final commissioning.

All habitat loss is assumed as permanent.

This Outline HMMP should be read in conjunction with the following reports also submitted as part of the planning application:

- ES Chapters 9 (Ecology) and Chapter 10 (Ornithology);
- Technical Appendix 9-1: Desk Study and Habitat Survey;
- Technical Appendix 9-2: Protected Species Survey;
- Technical Appendix 9-3: Bat Surveys (automated static);
- Technical Appendix 9-4: GCN;
- Technical Appendix 9-5: Grid Connection;
- Biodiversity Net Gain (BNG) Calculations and Report; and
- Moorland Restoration and Management Plan (MRMP).

The proposed erosion features on which compensation/enhancement will be undertaken are shown on Figures 1 and 2, appended to this Outline HMMP.

1.3 Aims and Objectives

The main objective of the HMMP is to compensate and enhance for loss of peatland habitats and grassland habitats as per the requirements of the Biodiversity Net Gain regulations¹.

Compensation is based on a programme of detailed habitat management prescriptions as shown on Figures 1 and 2.

Other objectives relate to additional habitat and faunal enhancements plus the creation of a Habitat Management Group (HMG) to oversee the peatland restoration proposals and restoration progress through the 40-year lifespan of the Proposed Development. Bat and ornithological monitoring requirements are also included.

1.4 Scope of the Habitat Management and Monitoring Plan

The HMMP is an iterative document which will be revised, updated, and re-issued throughout the construction and operational phases of the Proposed Development. In this way, the HMMP, through an agreed monitoring programme, will take account of the successes and failures of the proposed management measures and modifications to the management regime can then be proposed as necessary. The mechanism for communicating results and proposed adaptive actions, will be secured via the Section 106 Legal Agreement ('S106') to be signed by the Applicant, RBC and RMBC.

This Outline HMMP considers the specific features of the Site, the local area, existing and future land use, and the Proposed Development in making recommendations based on best information currently available. If aspects relating to the Proposed Development are altered, or new ecological information emerges, then the HMMP will be required to be adapted accordingly, in accordance with the terms of the S106.

This Outline HMMP considers the management of the habitats and species over the expected 40-year lifespan of the Proposed Development. It is separate to the MRMP, in the fact it covers non irreplaceable habitats and fauna enhancements, and does not contain any details of moorland or peatland restoration.

¹ <https://www.legislation.gov.uk/ukxi/2024/45/contents>

The reader should note that the management and monitoring of any ecological impacts associated with the construction of the Proposed Development, and any immediate re-instatement of habitats post-construction, will also be covered within the Construction Environmental Management Plan (CEMP). The CEMP will be prepared in accordance with SEPA guidance² and include site-specific measures to avoid risk of impacts on habitats and species identified on the Proposed Development. The CEMP will be secured via planning condition.

1.5 Roles and Responsibilities

As the developer, the Applicant is ultimately responsible for meeting the commitments made in this Outline HMMP and future detailed HMMP. The implementation of a detailed HMMP would be secured via the S106, overseen by a suitably qualified person or persons, appointed by the Applicant. All management tasks defined within the HMMP would be carried out by suitably experienced contractors and all monitoring would be conducted by suitably qualified and experienced ecologists and/or hydrologists.

² <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/> (accessed 11/04/25).

2. Surveys and Methodology

2.1 Scope

The following surveys and resources have been utilised in the formation of this plan:

- NVC survey;
- Phase 1 peat probing;
- Phase 2 peat probing;
- Peat depth mapping;
- Peat condition assessments;
- IUCN grazing and stocking guidance;
- Biodiversity Net Gain guidance;
- Pilkington et al. (2021);
- Mills and Rushton (2023);
- NatureScot (NS) guidance; and
- SEPA GWTDE guidance.

2.2 Methodology

2.2.1 NVC

Botanical surveys were conducted in the form of a National Vegetation Classification (NVC) survey. This survey was completed between 15th July – 8th August 2024.

The vegetation was surveyed by two suitably qualified and experienced botanical surveyors in accordance with NVC survey guidelines (Rodwell, 2006) and with reference to the NVC texts (Rodwell, 1991 – 2000, 5 volumes). The NVC scheme provides a standardised system for classifying and mapping semi-natural habitats and ensures that surveys are carried out to a consistent level of detail and accuracy.

Homogenous stands and mosaics of vegetation were identified and mapped by eye, drawn as areas onto field maps; these areas were surveyed qualitatively to record dominant and constant species, sub-dominant species and other species present. In practice the vegetation was mapped progressively across the Proposed Development to ensure that no areas were missed and that mapping was accurate. An aerial photograph of the Proposed Development was also used to aid accurate mapping of vegetation boundaries.

NVC communities were attributed to the mapped areas using surveyor experience and matching field data against published floristic tables (Rodwell, 1991 – 2000). Stands were classified to sub-community where possible. Woodland quadrats were adapted to the size of the community and were preferentially 10 m by 10 m for assessment of the tree canopy and 2 m by 2 m for the ground flora. Small areas of interest and general descriptions of features were made using target notes following Phase 1 survey methodology (JNCC, 2010).

Higher plant nomenclature follows that of Stace (2020) and bryophyte nomenclature follows that of the Hill *et al.* (2008). For every species recorded, an estimate was made of its quantitative contribution to the habitat. When quadrats were completed this abundance was estimated using the DOMIN scale:

- Cover of 91-100% given a score of 10;

- Cover of 76-90% given a score of 9;
- Cover of 51-75% given a score of 8;
- Cover of 34-50% given a score of 7;
- Cover of 26-33% given a score of 6;
- Cover of 11-25% given a score of 5;
- Cover of 4-10% given a score of 4;
- <4% (many individuals) given a score of 3;
- <4% (several individuals) given a score of 2; and
- <4% (few individuals) given a score of 1.

Data recorded outside of quadrats used the DAFOR scale when recording species composition, which stands for dominant (51-100%), abundant (31-50%), frequent (16-30%), occasional (6-15%) and rare (1-5%).

3. Ecological Features on the Site

The background information presented in this section has been sourced from the reports listed in Section 1.2 of this report and relates to features relevant to the HMMP Objectives specifically. Information on other receptors, not pertinent to these objectives, are not included here.

3.1 Habitats

The NVC survey recorded a total of nineteen communities, eight of which are considered to be of relevance to moorland and peat restoration. Where these communities were floristically distinct, they were assigned to corresponding sub-communities. The relevant moorland communities recorded during the survey were:

- Mires, springs and flushes: M25, M20, M3, M6, M1 and M2; and
- Dry heath communities: H18 and H12.

A map containing all the recorded NVC communities, and their locations, can be found on Figure 3.

All of the above recorded communities have potential affinities with Habitats of Principal Importance (HPI) in England (Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006). Heath and mire communities can also feature as part of the Annex I communities European dry heaths, Alpine and Boreal heaths, Active raised bogs, Degraded raised bogs still capable of natural regeneration and Blanket bogs; although it is unlikely the examples on Site are of international importance (Annex 1).

Table 1 Annex 1 and HPIs.

NVC Code	Annex 1	Section 41 or NERC Act
M25 <i>Molinia caerulea</i> – <i>Potentilla erecta</i> mire	7130 Blanket bogs 7120 Degraded raised bogs still capable of natural regeneration	Blanket bog Purple moor-grass and rush pastures
M20 <i>Eriophorum vaginatum</i> blanket and raised mire	7130 Blanket bogs 7110 Active raised bogs	Blanket bog
M3 <i>Eriophorum angustifolium</i> bog pool	7110 Active raised bogs	Blanket bog
M6 <i>Carex echinata</i> - <i>Sphagnum recurva/auriculatum</i> mire	None	Upland Flushes, Fens and Swamps
M17 <i>Trichophorum germanicum</i> – <i>Eriophorum vaginatum</i> blanket mire	7130 Blanket bogs 7120 Degraded raised bogs still capable of natural regeneration	Blanket bog
H18 <i>Vaccinium myrtillus</i> – <i>Deschampsia flexuosa</i> heath	4030 European dry heaths 4060 Alpine and Boreal heaths	Upland heathland
H12 <i>Calluna vulgaris</i> - <i>Vaccinium myrtillus</i> heath	4030 European dry heaths 4060 Alpine and Boreal heaths	Upland heathland
M1 <i>Sphagnum auriculatum</i> bog pool	7110 Active raised bogs	Blanket bog
M2 <i>Sphagnum cuspidatum/recurvum</i> bog pool	7110 Active raised bogs	Blanket bog

GWDTE Survey Results

GWDTEs are classified according to SEPA (2017), defining each NVC community on their potential dependency on groundwater. Groundwater dependency is often linked to wetlands that contain flora dependent upon the chemical composition of the water fed from a groundwater source. SEPA defines the habitats with regard to their potential for groundwater dependency, therefore not all

communities listed may be truly groundwater dependent. In total, there is one community listed as high potential for groundwater dependency and one listed as moderate, as defined by SEPA (2012); shown in Table 2 below.

Table 2 Potential groundwater dependence.

NVC Code	Potential groundwater dependence
M25 <i>Molinia caerulea</i> – <i>Potentilla erecta</i> mire	Moderate (dependent on the hydrogeological setting)
M20 <i>Eriophorum vaginatum</i> blanket and raised mire	None
M3 <i>Eriophorum angustifolium</i> bog pool	None
M6 <i>Carex echinata</i> - <i>Sphagnum recurva/auriculatum</i> mire	High
M17 <i>Trichophorum germanicum</i> – <i>Eriophorum vaginatum</i> blanket mire	None
H18 <i>Vaccinium myrtillus</i> – <i>Deschampsia flexuosa</i> heath	None
H12 <i>Calluna vulgaris</i> - <i>Vaccinium myrtillus</i> heath	None
M1 <i>Sphagnum auriculatum</i> bog pool	None
M2 <i>Sphagnum cuspidatum/recurvum</i> bog pool	None

In addition to the above mire and heath communities, the following habitats also recorded within the Site are listed as moderate potential for groundwater dependency (dependent on the hydrogeological setting), as defined by SEPA (2012):

- U6 *Juncus squarrosus*-*Festuca ovina* acid grassland;
- MG9 *Holcus lanatus*-*Deschampsia cespitosa* grassland; and
- MG10 *Juncus effusus*-*Holcus lanatus* rush pasture.

Further information on the habitat baseline of the Site is available in **Technical Appendix 9-1, along with the Biodiversity Net Gain Calculations & Report (8706 BNG Rev4) and MRMP (8706 MRMP Rev7).**

3.1.1 Habitat Condition

As a whole, the moorland habitats within the Site and on a wider scale are considered to be sub-optimal and degraded.

The NVC surveys confirmed that whilst there are communities that indicate presence of blanket bog and mire habitat, these are in a degraded state. Much of the moorland is not species diverse, and in many cases, the habitats identified are low quality examples of these communities.

Bog-mosses are sparse across the area, which is a sign of degraded active bog habitat. Rodwell (1998) states that reduced density of bog-moss in blanket bog reduces the hydrological capabilities of the bog and leads to less water being held. The combination of low levels of bog-moss along with ubiquitous active drains is likely causing the surface of the bog to dry out and further degrade.

Purple moor-grass is present on almost all of the proposed wind farm area, and this again indicates degradation of these habitats. Rodwell (1998) considers purple moor-grass as an invasive species within these types of habitats due to the negative impacts it causes on the functionality of the bog habitats. The drains will be contribute to water moving from the Site, decreasing the level of the water-table, and thereby favouring conditions for *Molinia* spread at the expense of active peat-forming species such as bog-mosses.

In summary, the NVC surveys have highlighted that the Site lacks species diversity and contains large areas dominated by purple moor-grass.

3.2 Fauna

3.2.1 Terrestrial Mammals

Information on badger is regarded as confidential and therefore included in TA 9-2: Protected Species.

3.2.2 Riparian Mammals

There are records of otter *Lutra lutra* within 2km of the Site, and the area is considered suitable for the species. There were no signs of water vole *Arvicola amphibius* recorded during the protected species surveys.

3.2.3 Bats

The combination of watercourses and ditches crossing the Site allow for bat foraging opportunities, and the Site is connected to the wider landscape by watercourses. The wider landscape surrounding the Site contains large open areas of moorland with limited foraging and commuting opportunities for bats. Please refer to TA 9-3: Bat Surveys (automated static) for information on bat survey results and mitigation recommendations.

3.2.4 Birds

Numerous bird species were observed during ornithology surveys undertaken between April 2022 and August 2024. These included merlin *Falco columbarius*, curlew *Numenius Arquata*, lapwing *Vanellus vanellus* and dunlin *Calidris alpina*. The ornithological baseline is presented in the ES Chapter 10 and ES Appendices.

Potential significant impacts were noted on the above species for breeding and additionally for non-breeding merlin.

3.2.5 Herpetofauna

No reptiles were recorded during the protected species surveys, although potential reptile/amphibian hibernacula were noted. Pond 1 was also found to support a small population of GCN (as per ES Technical Appendix 9-4).

4. HMMP

4.1 HMMP Area

HMMP Areas are shown on Figures 1 and 2.

The specific measures for the moorland restoration are included in the MRMP. 16.94 ha of blanket bog will be lost to the Proposed Development. Using baseline mapping, aerial imagery and on site conditions, a total area of 116.7 ha of traditional peatland restoration has been identified to offset this loss.

Additional works including enhancements for fauna, and grassland creation as part of the BNG calculations will also be completed. The details for these enhancements are included in this document.

4.89 ha of grassland habitat (modified grassland and poor acid grassland) will be lost to the Proposed Development. As part of the requirement to achieve 10% net gain, 49.49 ha of good condition acid grassland will be created and enhanced in the existing poor condition grassland. A 0.67 ha area of mixed woodland will be planted to shield the proposed substation, which will also contribute towards the 10% net gain requirement.

In terms of enhancement for species, areas around the existing woodland have been identified as suitable for bat box installation. Installing bat boxes increases the number of potential roost sites away from the Proposed Development and helps to keep bats away from wind turbines, reducing collision risk and barometric trauma. Additionally, bird boxes will also be installed within this woodland area, whilst hibernacula will be placed within the areas of grassland to be created.

4.2 Outline HMMP Heads of Terms

With consideration of the habitats present, and to a lesser degree species, the aim for the Proposed Development to achieve a significant biodiversity gain, primarily through compensation and enhancement of peatland and grassland.

4.3 Grassland & Wildflower Planting

4.3.1 Aim

Enhance the areas of acid grassland within the Site, increasing habitat diversity and providing foraging opportunities for invertebrates.

4.3.2 Background and Justification

The current modified grassland and acid grassland is in poor condition and dominates the northern half of the Site, providing limited ecological value. Increasing wildflower cover and species diversity will increase foraging resource for a wide range of invertebrates, birds and small mammals.

4.3.3 Outline Prescriptions

Prescription 1: Acid Grassland creation across northern portion of the Site (49.49 ha).

Grassland Creation

To meet the definition of good condition acid grassland areas must pass all five of the below condition assessment criteria:

- A: The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type;
- B: Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed;
- C: Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens;
- D: Cover of bracken is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%; and
- E: Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.

These areas will be sown with an acid grassland wildflower seed mix, such as Acid Grassland Wildflower Seed Mix for Sandy or Peaty Soils (BFS 2³) or equivalent. Using a wildflower seed mix designed for acid grassland will contribute towards passing condition assessment criteria A. Sowing of grassland will not be carried out during periods when the ground is dry, waterlogged or frozen. Sowing of the area of grassland will occur in Spring or Autumn. Autumn is preferred because seeds of some species require the winter chilling for good germination, whilst these timescales will also enable a high proportion of seeds to flower the following year (which a spring sowing would not achieve). Application of fertilisers should be avoided because it encourages the growth of highly competitive coarse grasses, lowering overall species diversity.

The wildflower species in this mix are predominantly perennial; thus they will be slow to germinate and grow and will not usually flower in their first growing season. Therefore, there will be a proportion of bare ground before fully established which may mean annual weeds occur in the first growing season.

The cutting/grazing regime for these grasslands aims to promote the development of a perennial/biennial, predominantly summer-flowering sward. The recommended management practice for acid grassland is rotational grazing at low stocking densities. Grazing should occur from July to December, encompassing most of the growing season to avoid the sward getting too long⁴. However should grazing not be viable for all 49.49 ha then from the second year onwards, one cut will be undertaken in August; with arisings to be left to shed seed and then removed from site. A further cut can be undertaken in October and April, if required. Mowing in a weaving fashion will leave a mosaic of cut and uncut areas, maintaining structural diversity whilst providing a foraging resource for insects, enabling late flowering species to set seed and to provide shelter for other wildlife. This varied sward height and structure will lead to these grasslands passing condition criteria B.

Scrub will be monitored and controlled within these grassland areas because woody species like birch are likely to colonise at a quicker rate than ericaceous species. If left unchecked, scrub may become dominant through the shading and drying out of lower growing species. Scrub encroachment will be controlled through a regular programme of intervention and this is recommended to take place annually for the first five years of the HMMP. Depending on the amount

³ available at <https://phoenixamenity.co.uk/store/products/bfs-2-acid-grassland-wildflower-seed-mix-for-sandy-or-peaty-soils/>

⁴ Greater Lincolnshire Nature Partnership (GLNP). Dry acid grassland: A guide to management. Available at: <https://glnp.org.uk/images/uploads/services/local-sites/LWS%20Management%20Leaflets/Dry%20acid%20grassland.pdf>. [Date accessed: 22/04/2025].

of scrub growth that occurs and the level of encroachment, appropriate removal operations may include hand pulling of seedlings or cutting of larger trees. Scrub management will help the acid grassland achieve condition assessment criteria D, which requires scrub cover is under 5%.

4.4 Mixed Woodland Planting

4.4.1 Aim

Plant a range of conifer and broadleaved tree species to screen the substation in the north of the Proposed Development.

4.4.2 Background and Justification

In addition to screening purposes, increasing the tree cover will provide additional habitat for nesting birds and provide further opportunities for bat roosting and foraging.

4.4.3 Outline Prescriptions

Prescription 2: Mixed woodland planting up to 0.67 ha total.

Tree Planting

Species to be planted are shown in Table 3 below and have been selected based on their suitability to create an upland woodland with understorey.

Table 3 Upland woodland species mix

Common Name	Latin Name	% Cover
Sycamore	<i>Acer campestre</i>	5
Silver birch	<i>Betula pendula</i>	20
Hazel	<i>Corylus avellana</i>	15
Hawthorn	<i>Crataegus monogyna</i>	5
Common juniper	<i>Juniperus communis</i>	5
Scots pine	<i>Pinus sylvestris</i>	5
Sessile oak	<i>Quercus petraea</i>	25
Pedunculate oak	<i>Quercus robur</i>	10
Rowan	<i>Sorbus aucuparia</i>	10

Planting will take place between November and March during suitable weather conditions. Planting must not to be carried out in frozen or waterlogged ground. Feathered trees measuring 75 cm x 75 cm x 45 cm (LxWxD) will be planted along with whips at 40-60 cm in height.

Trees will be planted into tree pits 2-3 times the width of root spread and to the depth of root spread, with the base of the pit broken up a further 0.3 m depth. The tree pit sides are to be loosened, base aerated and later backfilled with the existing excavated subsoil and topsoil. Whips will be notch planted.

All new planting shall be firmed in and well-watered at the time of planting, and subsequently as required, to ensure successful establishment.

All new planting must be protected from rabbit/deer damage during establishment with either suitable temporary fencing or biodegradable tree shelter guards and stake to secure. Tree stakes shall be a single stake, stout and straight, tanalised, and have an average diameter of 75 mm. They should be pointed at the butt end and de-barked. Stakes shall be placed in position before the tree is planted

and shall be embedded 400 mm below the bottom of the pit. A rubber tie and spacer will be used to secure the tree.

Mulch shall be non-peat based and be spread evenly to a depth of 75 mm to 1000 mm diameter around base of tree.

Tree Management

Trees to be managed to maintain their health and safety, including crown thinning and pruning where necessary with damaged and diseased limbs removed.

Successfully established trees will require minimal maintenance going forward. Trees are to be monitored once every 3 years for pests and diseases. Any dead, dying or diseased material will be removed during these checks. Woodland thinning is to be carried out in Year 10, then every 5 years thereafter. Woodland to be thinned by 20%.

As the trees grow, the tree guards may need replacing with larger diameter guards to ensure growth is not restricted. Ties will also need loosening between the tree and the stakes. Any failed stakes or guards are to be replaced. Stakes, ties and guards or protective fencing can be removed in Year 5 for any trees that are established. Any dead limbs will be removed promptly by hand loppers or a chainsaw to minimise risk of injury. Any removed wood will be stored in the acid grassland areas detailed within Prescription 1 above in log piles to provide shelter for herpetofauna and invertebrates.

During establishment, trees are to be checked regularly to ensure they are firmly in the soil and watered. Within the first 5 years of establishment a 1 m weed free area around the base of the tree must be maintained, with fertilizer or mulch applied.

Where tree replacement is required, species to reflect original planting plan will be planted, unless species-specific issues or disease have been identified. The contractor shall replace all trees that have failed to thrive (show good growth or display foliage) during the growing season after planting (including plants damaged during maintenance operations). The specification of replacements shall be increased to account for anticipated growth during the period since the construction period. Trees are to be replaced during the next available planting season.

This woodland will be planted with feathered trees and whips at 2 m centres, with a density of 0.25m² comprised of 1,919 trees planted in total.

4.5 Riparian Planting

4.5.1 Aim

Plant a range of tree species with diverse structure for the enhancement of biodiversity and provide shading for selected areas of running water for the benefit of plants, invertebrates and fish.

4.5.2 Background and Justification

Tree and scrub planting along various watercourses, with exact locations currently unconfirmed, will increase the available habitat for otter holt creation. Overall scrub and tree planting will increase the available wooded habitat for nesting birds, small mammals, herpetofauna, invertebrates, otter holts and badger sett creation. With regards to riparian tree planting, in the next 60 – 70 years projected increases in water temperatures will make some rivers inhospitable for our freshwater wildlife (Woodland Trust, 2016). Therefore, increased shading provided by additional tree cover will benefit freshwater ecosystems.

4.5.3 Outline Prescriptions

Prescription 3: Tree planting within marginal riparian habitat 2.84 km total.

All planting would be undertaken between October and March, with fencing and rabbit spiral guards used to protect young vegetation.

Riparian Woodland

A 10 m band of scrub and woodland would be created after the aquatic zone containing a mix of lightly shading and deeper shading tree species. Species mixes could include downy birch *Betula pubescens*, sessile oak *Quercus petraea* and grey willow *Salix cinerea*, which should be prioritised in proximity to the watercourses to reduce the number of failed trees that could occur.

For shading contrast, sections of alternating downy birch, silver birch *Betula pendula*, grey willow, rowan *Sorbus aucuparia* and hazel *Corylus avellana* could be used for lighter shading, whilst hawthorn *Crataegus monogyna*, oak *Quercus* sp., blackthorn *Prunus spinosa* and wild cherry *Prunus avium* could be used to create deeper shading. This band would be planted with one to two year old trees at 3 m centres, with a density of 1,111 trees planted per ha as per Woodland Trust (2016) guidance.

This area has not been identified and would be confirmed post consent following an updated river condition assessment survey, based on the 2024 MoRPH survey results.

4.6 Enhance wider habitat for local bat, bird and herpetofauna populations.

4.6.1 Aim

Increase local bat and bird populations away from the Proposed Development to avoid an increase in mortality/injury risk, plus increase potential available habitat for amphibians and reptiles.

4.6.2 Background and Justification

As per requirements under Local Plans and National Planning Framework include appropriate measures to conserve, restore and enhance biodiversity in relation to opportunities for species.

4.6.3 Outline Prescriptions

Prescription 4: Installation of bat and bird boxes plus creation of hibernacula.

Three bat boxes will be affixed to suitable mature retained trees across the Wind Farm Site situated away from turbine locations. These should be of a type similar to '1FF Schwegler Bat Box', which are suitable for crevice dwelling species, such as common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus*, which were the most common species recorded by bat static detectors in 2024, (see ES Appendix 9-3: Bat Surveys (automated static)). The boxes will be placed on the south, south-western or south-eastern aspect of the trees, at least 2.8 m from the ground, and protected from direct rainfall and artificial light.

These types of bat boxes require no maintenance because they are open at the bottom, allowing droppings to fall out with no cleaning necessary, and will not be disturbed. Management is not required to check occupation as these serve as enhancement as opposed to mitigation for habitat or roost loss.

Three bird boxes will be affixed to suitable trees around the Site. These will be woodcrete or a similar durable material, with 32 mm and 26 mm diameter holes, such as the Schwegler 1B Nestbox or a type similar to this style. These will be attached around 3 m from the ground on northern and eastern aspects.

Bird boxes will be cleaned out each autumn. This is the optimum period between the end of the breeding season (August) and the start of winter roosting periods. Contents will be removed, and any debris fully cleared out. Bird boxes should be left undisturbed during the bird breeding season (March-August, inclusive).

In addition, four hibernacula will be created within the new grassland area. Hibernacula should be checked prior to the start of the hibernation period (before November) and any damage or wear identified. Hibernacula that are damaged will be repaired or replaced. Hibernacula should be left undisturbed during the reptile and amphibian hibernation period (November-February, inclusive).

The location of the above enhancements will be agreed post-consent with the provision of a final HMMP.

4.7 Environmental Clerks of Works

Prior to the commencement of works an Environmental Clerks of Work (EnvCoW) will be appointed.

No development shall commence until details of the appointment of a suitably qualified, experienced and independent Environmental Clerk of Works ("EnvCoW") have been submitted to and approved in writing by the Local Planning Authority.

The EnvCoW may comprise a single individual or a team of specialists, but in all cases shall demonstrate appropriate expertise in both:

- a) ecology; and/or
- b) hydrogeology, peat and geotechnical matters.

Scope of Appointment

The submitted details shall include the roles, responsibilities and reporting procedures of the EnvCoW. The EnvCoW shall:

Ecological Responsibilities

- Monitor compliance with the Protected Species Mitigation and Ecological Management Plan (PSEMMP) approved pursuant to Conditions;
- Oversee implementation of ecological mitigation and protected species measures;
- Advise on timing of works, exclusion zones and species protection requirements; and
- Approve minor on-site adjustments (including micro-siting) where necessary to protect ecological receptors.

Geological / Peat Responsibilities

- Monitor compliance with all approved hydrogeological, peat and geotechnical mitigation measures, including the Peat & Carbon Rich Soils Management Plan (PCRSMP) and any Peat Landslide Risk Management Plan (PLRMP) approved pursuant to Conditions;
- Advise on ground conditions, construction methodologies and micro-siting to minimise environmental and geotechnical risks; and
- Identify and report any geotechnical risks, including peat instability, landslip or groundwater impacts.

3. General Duties

- Undertake site inspections at appropriate intervals;
- Provide written reports to the Local Planning Authority at agreed intervals; and
- Report any significant non-compliance or environmental incident to the Local Planning Authority within 5 working days.

Duration

The EnvCoW shall be appointed on the approved terms from pre-construction through construction and post-construction restoration phases of the Authorised Development.

Compliance

The Authorised Development shall be carried out in accordance with the approved details and all mitigation measures overseen by the EnvCoW shall be implemented unless otherwise agreed in writing by the Local Planning Authority.

4.8 Habitat Management Group

4.8.1 Aim

Provision of oversight mechanism and peer review opportunities to discuss the need for corrective actions (e.g. changes to current measures), how and when to implement them.

4.8.2 Background and Justification

A Habitat Management Group (HMG) will be established pursuant to the obligations of the S106, which shall act as a consultative body to provide advice to the developer or operator of the wind farm (or their successors in title) and to RBC and RMBC (as the Local Planning Authorities).

The HMG will be responsible for reviewing the findings of the habitat monitoring programme and for advising on necessary refinements to the implementation of the HMMP (and MRMP) if required.

4.8.3 Outline Prescriptions

Prescription 5: Establishment of a Habitat Management Group.

The Environmental Clerk of Works (EnvCoW) as outlined within Section 4.7 will facilitate the creation of the HMG (on behalf of the developer or operator of the wind farm) and shall manage its administration/operations. The developer or operator of the wind farm (or their successors in title) will be responsible for funding of the HMG.

The HMG will be established by the developer or operator of the wind farm (or their successors in title) prior to construction commencing and will maintain it throughout the operational lifespan of the Proposed Development, ensuring that prescriptions are enacted in a timely manner and the results communicated back to stakeholders.

Membership of the HMG shall include the EnvCoW alongside representatives of the developer or operator of the wind farm (and their appointed contractors or agents), Greater Manchester Ecology Unit (GMEU), Natural England (if they indicate they wish to be involved) and any landowners or tenants with vested interests.

In accordance with good land management practice, a register of management works undertaken on Site will be maintained by the EnvCoW to monitor that such works are consistent with the agreed

objectives of the HMMP and MRMP. A technical report will be produced by the EnvCoW at the end of each year in which habitat management prescriptions have been undertaken, which will be submitted (electronically) to the HMG for review via email.

The HMG will be responsible for reviewing the findings of all prescribed monitoring as part of the habitat management programme and for providing recommendations to the EnvCoW for refining the implementation of the HMMP and/or MRMP if required. The HMG will also be responsible for providing a recommendation to RBC and/or RMBC in respect of the approval of the HMMP and/or MRMP under the terms of the S106.

The HMG will meet annually for the first 5 years and year 1 will be at commencement of the development to ensure that the aims are progressing and to assess if any other factors have had an adverse or positive effect on the Site that were not previously known/considered. After the initial 5-year period, results from monitoring carried out in years 10 and 15 will be communicated to the HMG.

Copies of the minutes of any meetings of the HMG, alongside the final/approved copies of any monitoring reports and the HMMP/MRMP will be made publicly available in electronic format by the developer or operator of the wind farm (or their successors in title) and stored on a website.

4.9 Monitoring the Effect of the Proposed Development

4.9.1 Aim

To ensure the effect of the Proposed Development is measured and that prescriptions in this HMMP, and any subsequent, relevant planning conditions or S106 obligations, are adhered to.

4.9.2 Background and Justification

To ensure that the basis for consent is discharged and that an enhancement and significant biodiversity net gain is achieved.

4.9.3 Outline Prescriptions

Prescription 6: Monitoring during construction to operation to document habitat restoration and bird populations plus reviewing use of faunal enhancements by relevant species groups.

Peat Habitat

In order to assess the effectiveness of the habitat restoration post construction, with the aim being to monitor the long-term condition of the Proposed Development, a programme of fixed-point photography and quadrat monitoring in Years 1, 3 and 5 will be in place. It is suggested that between 30-40 quadrats are used. The monitoring will be used to assess the effectiveness of the HMMP, which can be updated to reflect this survey data. Following Year 5 the need for, and frequency of, further monitoring will be agreed with the HMG – see prescription 8; the frequency of surveys, which will be dependent on factors including how successful establishment has been and other land-use pressures, such as grazing densities.

Habitat monitoring will apply to ‘drains’ (i.e. bog) and bog restoration/creation areas as shown on ES Figures considering the following criteria, as derived from McDonald *et al.* (1998), collecting a number of quantitative measures based upon that methodology namely:

- Common heather cover;

- Heath cover *Erica spp.* cover;
- Bilberry cover;
- Sphagnum/bryophyte cover;
- Intensity of common heather & bilberry browsing (recorded using classification categories of Low/Med/High);
- Stem breakage;
- Bryophyte depth;
- Trampled bare ground;
- Dung presence (from large herbivores);
- Dung pellets per 100 m²;
- Average height of dwarf shrubs;
- Common heather age class;
- National Vegetation Classification (NVC) community; and
- Evidence of herbivores, such as burrows, warrens, runs, prints, etc.

In addition, a dipwell will be placed into each of the 30-40 quadrats to measure the water table.

Monitoring of the actual peatland restoration features will also be undertaken to check the integrity of the features and record any issues of further work requirements. If features are not performing correctly, remedial measures may be required e.g. increasing dam frequency.

Control of natural regeneration from adjacent plantation woodland

The regeneration of invasive conifer trees will be controlled within the HMP areas.

Due to the presence of conifer trees and encroaching scrub around the margins of the HMMP and MRMP areas, it is considered that unwanted conifer and scrub regeneration will take place on the open ground as they are likely to colonise at a quicker rate than ericaceous species. If left unchecked, the trees will again become dominant through the shading and drying out of lower growing species.

This regeneration will be controlled through a regular programme of intervention and this is recommended to take place annually for the first five years of the HMMP. Depending on the amount and age of the regeneration that occurs, appropriate removal operations will take place including hand pulling of seedlings or cutting of larger trees.

Non-Peat Habitat

Grasslands

In Year 1 following creation of the grasslands, an ecological walkover will be undertaken by a suitably qualified ecologist in early summer (i.e. June). It is important to note that the wildflower grassland habitats will support gradually growing perennials which may not be fully in evidence in Year 1.

This will record the following details:

- Species present;
- Coverage of grass and wildflower species (using the DAFOR scale);
- Evidence of seedlings and rosettes of wildflower species;
- Presence of any annual or perennial weeds;
- Coverage of bare ground or any stones; and

- Evidence of any negative effects e.g. browsing, trampling.

The results will be compared against the following targets:

- Coverage of wildflower and fine grasses as per seed mixes provided at Appendix B to be at least 'Occasional';
- Bare ground to be no more than 'Frequent', with no large stones and a good spread of desirable seedlings indicating the bare ground area will reduce over time;
- Annual or perennial weeds absent or 'Rare'; and
- No evidence of browsing or trampling.

If the above targets are not met for one or more of the habitat areas on the Year 1 walkover, remedial actions will be put into place. The remedial actions will be advised by the Ecologist as appropriate at the time, but may include the following measures.

Poor establishment of seed mix

Identify whether this may be due to some species being slower to establish, or if this is likely to be due to unsuccessful sowing.

If other signs are positive, no remedial action needs to be taken and a re-survey will be undertaken in the following spring when more species may be in evidence.

If other signs are negative (e.g. large areas of bare ground/trampling/weeds etc), remedial action may be required. This may include:

- Re-sowing at a suitable time of year;
- Weed removal by hand or mechanically (no weed killer to be used); and
- Watering to aid seed establishment.

Coverage of weeds

If weed coverage is greater than 'Rare', remedial action will be required. Action should be taken before late summer to prevent the weeds from setting seed. Actions will be advised as appropriate and can include:

- Hand pulling of weeds;
- Strimming; and
- Mowing.

Coverage of bare ground

If bare ground coverage is greater than 'Frequent' and/or the soil texture is clumpy or many stones are present, remedial action may be required. This could include:

- Re-sowing of seeds; and
- Localised harrowing to reduce the size of the soil clumps and remove stones.

Evidence of negative effects

If evidence of negative pressures are found which may be affecting the establishment of the grasslands, remedial action will be required.

- Browsing/grazing – this is likely to be by rabbits or deer. Rabbit/deer control recommended as well as improved fencing, if appropriate; and

- Trampling – possibly caused by informal use of shortcuts or creation of desire lines by employees operating/maintaining the solar farm across grassed areas. Fencing likely to be most appropriate remedial measure

Long-term monitoring

From Years 2 – 40 onwards, the majority of the management of the Proposed Development is envisaged to be undertaken by contractors and thus a programme will be worked up with them based on this HMMP.

Aside from the routine management and maintenance, in terms of the biodiversity value of the Site, walkovers by an Ecologist of the natural habitat areas will occur in Years 2, 5, 10, 15, 25 and 40, between May and August.

These will record the criteria listed above, with the aim that by Year 5, cover of desirable species (as per the species mixes provided at Appendix B) will be 'Dominant' and habitats will be reaching their intended target condition.

Following the walkover in Year 1 and subsequent years, a report will be prepared with findings, recommendations and timescales for remedial action. This will be provided to the Applicant, the landscape contractors and GMCA / RBC for information.

Birds

Although the effect of wind farms on flora and fauna is relatively well understood, it is important that models and understanding of the effect is continuously refined in order to inform future developments.

Ornithological post-construction monitoring will be undertaken in Years 1, 3 and 5 following the commencement of operation, with a review being undertaken as to the need for any further monitoring following Year 5.

The aim of monitoring will be to monitor bird populations within the Site to ensure that the wind farm is not having unpredicted adverse effects on the bird populations present, and to ensure that the HMMP is effective in supporting the bird populations utilising the Site.

Although the detailed scope of the monitoring will be agreed with the GMEU, RBC, and Natural England, the following surveys will be carried out:

- Breeding bird surveys using a Brown and Shepherd approach (Brown, 1993) to allow breeding waders to be monitored across the Site and 500m buffer; and
- Breeding raptor surveys within the Site and where access permits to a distance of 2 km from the boundary.

Faunal Enhancements

The bird and bat boxes will be checked externally for signs of damage or wear annually. If any boxes are identified as being damaged or unfit for purpose, then they will be repaired or replaced with the same or similar type. In terms of monitoring the bat boxes non-invasive checks can be done without needing a licence.

However, prior to the interior of the box being checked, if field signs (dropping, staining, prey remains) indicate presence, or if bats are found within the box (no field signs observed beforehand) a Suitably Qualified Ecologist with a bat licence will be required to perform the check.

Hibernacula should be checked annually prior to the start of the hibernation period (before November) and any damage or wear identified. Hibernacula that are damaged will be repaired or replaced.

Outline Prescription Summary

Table 4 summarises the outline prescriptions and proposed monitoring schedules.

Table 4 Outline Prescriptions and Proposed Monitoring Schedules.

ID	Target Feature	Survey Type	Timing	Programme	Responsibility
Prescription 1	Creation of acid grassland	Initial planting Checks to confirm planting condition	Sowing will occur in Spring or ideally Autumn. Monitoring May – August	Years 1, 2, 5, 10, 15, 25 and 40	Applicant / Suitably Qualified Ecologist (EnvCoW)
Prescription 2	Broadleaved tree planting	Initial planting Checks to confirm planting condition	Planting in Winter (November - February). Monitoring May – August	6 months intervals in Years 1-2, and annually from Year 3 until Year 5. Woodland thinning in Year 10 then every 5 years following	Applicant / Suitably Qualified Ecologist (EnvCoW)
Prescription 3	Riparian planting	Initial planting Checks to confirm planting condition	Planting in Winter (November - February). Monitoring May – August	6 months intervals in Years 1-2, and annually from Year 3 until Year 5.	Applicant / Suitably Qualified Ecologist (EnvCoW)
Prescription 4	Habitat enhancement for bats and birds through provision of c. three bat boxes and three bird boxes	Annual monitoring (one check)	November - February	Annually throughout lifespan of project	Suitably Qualified Ecologist (EnvCoW) / SQE with bat licence
Prescription 4	Habitat enhancement for herpetofauna through provision of c. two hibernacula	Annual monitoring (one check)	March - October	Annually throughout lifespan of project	Applicant / Suitably Qualified Ecologist (EnvCoW)
Prescription 5	Environmental Clerks of Work	Monitoring throughout the development period	Throughout the development period	Throughout the development period	Applicant / Suitably Qualified Ecologist (EnvCoW)
Prescription 6	Habitat Management Group	Meetings with concerned parties	-	Annually Years 1- 5	Applicant / Suitably Qualified

ID	Target Feature	Survey Type	Timing	Programme	Responsibility
					Ecologist (EnvCoW)
Prescription 7	Across Proposed Development and 500 m buffer	Breeding birds (Brown and Shepherd)	April - July	Years 1, 3, 5, 10 and 15	Applicant / Suitably Qualified Ecologist (EnvCoW)
Prescription 8	Across Proposed Development and 2 km buffer	Raptor Monitoring	March - July	Years 1, 3, 5, 10 and 15	Applicant / Suitably Qualified Ecologist (EnvCoW)

5. Figures

Figure 1: Post Development Habitat Enhancements

Figure 2: Peatland Restoration Proposals

Figure 3: NVC Survey Baseline Results

6. References

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