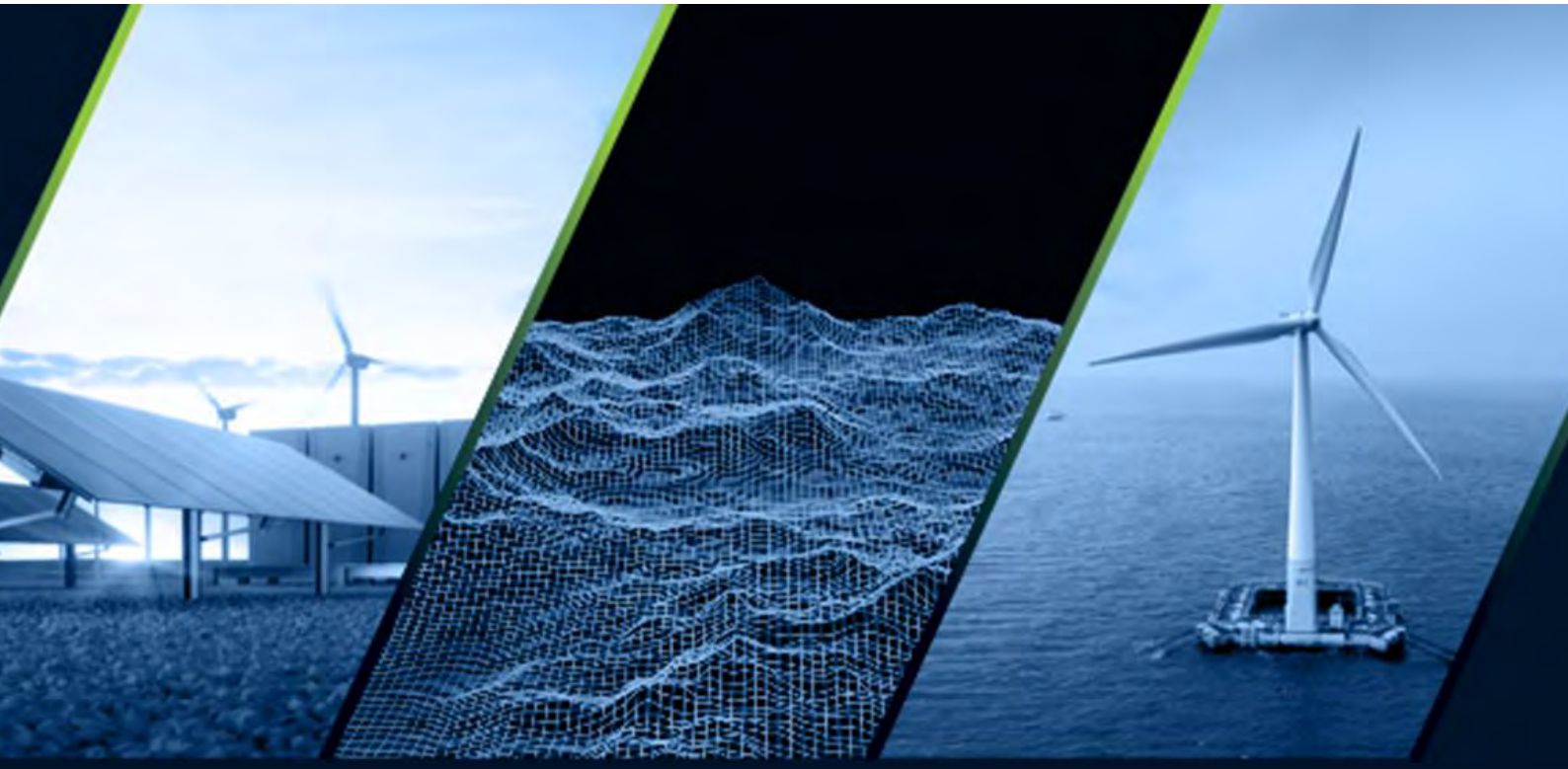
Technical Appendix 9.3: Outline Peat Management Plan

The **Renewable Energy** Consultants.



Glenouther Wind Farm EIA Report
Outline Peat Management Plan

Client	:	LUC
Document No.	:	Technical Appendix 9.3
Document Status:	:	Draft

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Information

Project Name:	Glenouther Wind Farm
Document Title:	Outline Peat Management Plan
Client Name:	LUC
Document No.:	Technical Appendix 9.3: Outline Peat Management Plan
Document Status:	Draft
Contracted Entity:	OWC

Document History

Rev	Date	Authored	Reviewed	Approved	Notes
A	2026-04-28	AM	ST	-	Draft
B	2026-07-15	AM	DM / AS / ST	AM	Issue

Table of Contents

Document Notes **2**
Table of Contents **3**
1 Introduction **5**
1.1 Background 5
1.2 Scope of Work 6
1.3 Report Structure 7
2 Context to Peat Management **8**
2.1 Peat as a Carbon Store 8
2.2 Good Practice Guidance 8
2.3 Definitions 10
2.4 Proposed Development Approach 11
2.4.1 Prevent / Avoid 12
2.4.2 Reuse / Restoration 12
2.4.3 Disposal 12
3 Site Characterisation **13**
3.1 Site Overview 13
3.2 Peat Depth 13
3.3 Peat Geomorphology and Condition 14
3.4 Land Use 14
4 Peat Excavation and Storage **16**
4.1 Iterative Layout Design 16
4.2 Approach 17
4.2.1 Non-excavated Infrastructure (Turbines 1, 2 and 3) 17
4.2.2 Treatment of acrotelm and catotelm 18
4.3 Excavation calculations 19
4.3.1 Turbines 4 and 5 19
4.3.2 Access tracks 20
4.3.3 Substation 20
4.3.4 Construction Compound 20
Temporary 20
4.4 Storage 20
4.5 Summary 21
5 Reuse **22**
5.1 Overview 22
5.1.1 Use in reinstatement 22
5.1.2 Use in restoration 22
5.2 Reinstatement calculations for temporary infrastructure 22
5.3 Reuse Calculations for Forest-to-Bog Restoration 23

5.3.1 Outline Principles 23
5.3.2 Access 24
5.3.3 Sequence of Works 25
5.3.4 Identification of Translocation Areas 25
5.3.5 Calculated Reuse Volumes 26
5.4 Peat Balance 27
5.5 Reuse of shallow peaty soils 27
6 Good Practice 28
6.1 Background 28
6.2 Excavation and Handling 28
6.3 Storage 28
6.4 Reinstatement and Restoration 29
6.5 Monitoring 30
7 References 31

1 Introduction

1.1 Background

Wind Power North Four Ltd ('the Applicant') is seeking planning permission under the Town and Country Planning (Scotland) Act 1997 (as amended) to construct and operate the Glenouther Wind Farm ('the Proposed Development'), in East Ayrshire, Scotland. Plate 1.1 shows the location of the Site.

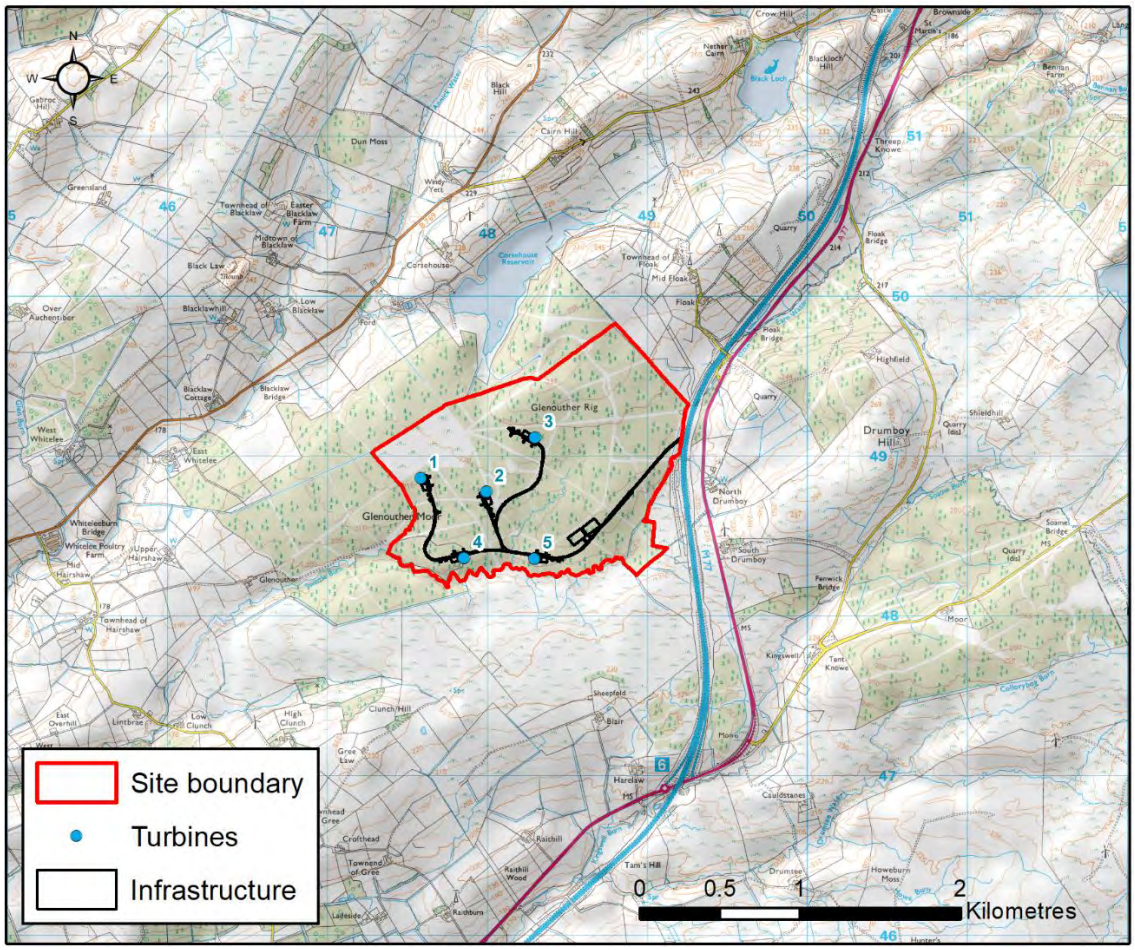


Plate 1.1 Site location

The Site is located on land at Glenouther Moor, south of Corsehouse reservoir and west of the M77 motorway, with the closest settlement being Stewarton, approximately 4.5 km to the south-west.

The Proposed Development will comprise:

- Up to five wind turbines with an individual maximum height of up to 200 metres (m) to blade tip and a combined site output capacity of up to 36 megawatts (MW);
- Foundations supporting each turbine (comprising a mixture of piled and excavated construction methods);
- Permanent crane hardstandings at each turbine location (comprising a mixture of piled and excavated construction methods);

- Approximately 4.1 kilometres (km) of new access track comprising approximately 1.3 km of excavated track and approximately 2.8 km of floated track.
- Up to 12 new watercourse crossings (of which two are mapped watercourses, five are unmapped minor watercourses, and five artificial drains);
- A control building and substation;
- A network of underground cables to connect turbines to a substation;
- Approximately 6.35 hectares (ha) of compensatory planting; and
- A Biodiversity Enhancement Management Plan (BEMP).

In addition to the above permanent components associated with the operation of the Proposed Development, construction will also require the following components/works:

- A temporary construction compound including car parking;
- Approximately 0.3 km of temporary floated track north-east of the substation which will be used as a dedicated passing place for construction vehicles as they enter and exit the Site.
- Temporary auxiliary hardstandings at each turbine (comprising a mixture of excavated, piled and floated construction methods);
- The removal of forestry to physically construct the Proposed Development, support wider woodland management and enable forest-to-bog restoration.

This Outline Peat Management Plan (OPMP) follows guidance (Scottish Renewables & SEPA, 2012; Crotty et al, 2025 – hereafter 'CXC Report') on the assessment of peat excavation and reuse for wind farms in Scotland. The CXC Report reviewed the 2012 guidance, which is noted by Scottish Government as "*date*[ing] *from 2012*, [*has*] *not been reviewed or updated since. It does not reflect current legislation, good practice or controls. It continues to be used to provide some relevant advice, and has been retained for reference purposes*". The CXC summarises current knowledge (at 2025) but stops short of providing reuse methodologies to support development.

This OPMP accompanies **Chapter 9: Hydrology, Hydrogeology, Geology and Peat** of the Environmental Impact Assessment Report (EIA-Report) and was prepared in parallel with a Peat Landslide Hazard and Risk Assessment (PLHRA, Technical **Appendix 9.4**), with both reports being informed by peat depth probing undertaken by Kaya Consulting Limited which is documented in **Technical Appendix 9.2: Peat Survey Report**.

1.2 Scope of Work

The scope of this OPMP is as follows:

- Summarise the design principles adopted for the design of the Proposed Development with respect to peat soils, including the approach to peat characterisation and the identification of opportunities taken to minimise impacts on peatlands within the Site.
- Calculate the potential volumes of peat, both acrotelmic and catotelmic, and soil that may be excavated in association with construction of the Proposed Development.

- Identify and justify reuse of acrotelmic and catotelmic peat where it cannot be reinstated at source, including, where appropriate, in peatland restoration.
- Identify good practice measures to ensure excavated peat is stored safely and with minimal loss of function prior to its reinstatement.

1.3 Report Structure

This report is structured as follows:

- Section 2 provides an outline of relevant guidance relating to the excavation, storage and reuse of peat.
- Section 3 provides an overview of the Site and Proposed Development infrastructure based on the scheme described in the main Environmental Impact Assessment (EIA) chapters and on desk study review of Site information.
- Section 4 describes the approach to and results of peat excavation calculations.
- Section 5 describes reuse opportunities for excavated peat and soil within the Site, including in restoration of afforested peatland.
- Section 6 provides general good practice measures and measures specific to the conditions at the proposed Site.

Where relevant information is available elsewhere in the EIA-R, this is referenced in the text rather than repeated in this report.

2 Context to Peat Management

2.1 Peat as a Carbon Store

Priority peatland habitats comprise blanket bog, lowland raised bog, lowland fens, and part of the upland flushes, fens and swamps, as listed in the UK Biodiversity Action Plan (UK BAP). Blanket bog is the most widespread of these habitat types in Scotland, and therefore it is blanket bog that is usually of relevance for proposed developments/wind farms in upland areas.

Blanket bogs in the UK started forming in the early Holocene, with most UK bogs initiating prior to 6,000 years ago under cooler and wetter conditions than at present. Where bogs remain waterlogged, and peat forming plant species persist, blanket bog is still considered to be actively forming and accumulating organic matter, and therefore can be considered a carbon sink. A bog that is not losing carbon/peat but is no longer accumulating organic matter can be considered a carbon store, and a degrading bog can be considered a carbon source (Mills et al, 2021).

A peatland may change state between sink, store and source through natural processes or as a result of human activity. The purpose of any Peat Management Plan (PMP) is to avoid impacts on the peat carbon stores at wind farm sites by avoiding peat, where possible, or by minimising impacts where peat cannot be avoided. Where there are opportunities to improve peat condition, e.g. through restoration, and in so doing, help convert carbon sources into stores, or stores into sinks, this may also be facilitated by the peat management plan. Restoration proposals within this OPMP sit alongside wider biodiversity enhancement proposals presented in **Technical Appendix 7.6: Outline Biodiversity Enhancement Management Plan**.

2.2 Good Practice Guidance

Where peat is to be excavated in association with built infrastructure, it may be considered to be a waste product under the following legislation:

- Environmental Protection Act 1990 (as amended).
- Landfill (Scotland) Regulations 2003 (as amended).
- The Waste Management Licensing (Scotland) Regulations 2011.

In order to address this legislation, a number of guidance documents have been issued to assist applicants in responsibly planning, installing and operating infrastructure in peatland settings. This OPMP has been informed by this collective good practice, which includes the following documents:

- SEPA Planning Advice Note – Assessing the impact of developments on peatland and carbon-rich soils (SEPA, 2025a).
- WAS-G-52 - Developments on Peat and Off-site Uses of Waste Peat (SEPA, 2025b).
- WAS-G-11 - On-site Management of Excavated Peat (SEPA, 2026a).
- Standing Advice on Peaty Soil (SEPA, 2026b).
- Advising on peatland habitats and carbon-rich soils in development management (NatureScot, 2026).

- ClimateXChange (CXC) - Reuse of excavated peat on wind farm development sites (Crotty et al, 2025).
- Peatland ACTION - Technical Compendium (NatureScot, 2024).
- Good Practice During Wind Farm Construction (NatureScot, 2024a).
- Good Practice during Wind Farm Construction, Version 4 (Scottish Renewables, Scottish Natural Heritage, Scottish Environmental Protection Agency, Forestry Commission Scotland, 2019).
- Peatland Survey. Guidance on Developments on Peatland (Scottish Government, Scottish Natural Heritage and SEPA, 2017a).
- Peat Landslide Hazard and Risk Assessments, Best Practice Guide for Proposed Electricity Generation Developments (Second Edition) (Scottish Government, 2017).
- Carbon and Peatland 2016 Map (GIS) (Scottish Natural Heritage, 2016a).
- Carbon-rich Soils, Deep Peat and Priority Peatland Habitat Mapping, Consultation Analysis Report (Scottish Natural Heritage, 2016b).
- Scotland's National Peatland Plan - Working for our future (Scottish Natural Heritage, 2015a).
- Constructed Tracks in the Scottish Uplands, 2nd Edition (Scottish Natural Heritage, 2015b).
- Developments on Peatland: Guidance on the assessment of peat volumes, reuse of excavated peat and the minimisation of waste (Scottish Renewables and SEPA, 2012).
- Floating Roads on Peat - A Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland (Scottish Natural Heritage and Forestry Commission Scotland, 2010).

In general terms, the guidance proposes appropriate activities to be undertaken at the planning (Environmental Impact Assessment), post-consent/pre-construction and construction stages. The overarching principles are generally the same across the different guidance documents and are set out below.

During planning (EIA):

i. Determine at a sufficient level of detail the distribution of peat within a site in order to assess the likely level of impact of proposed works.

ii. Calculate the volumes of peat likely to be excavated during construction.

iii. Demonstrate how excavated peat will be managed (ii and iii together comprising an assessment of the "peat and soil balance").

These activities are normally considered within an OPMP, delivered as part of the Environmental Impact Assessment at the planning stage.

Pre-construction stage:

Assuming planning permission is granted, during the pre-construction period:

i. A refined peat and soil mass balance should be calculated through further site

investigation works (including intrusive works such as detailed probing across final infrastructure footprints and/or trial pits to verify the nature of probed materials).

ii. Further detailed topographic survey and design level excavation, storage and reuse plans should be drafted to enable contractors to bid for and implement the works.

iii. Key good practice measures should be identified within the final PMP that integrate with other related plans or control documents for construction, including, where applicable, the Construction Environmental Management Plan (CEMP), Site Waste Management Plan, Habitat Management Plan (where relevant) and Geotechnical Risk Register.

During the construction stage:

i. Utilise micro-siting to optimise infrastructure locations relative to final pre-construction information gathered on site.

ii. Monitor, adjust and implement the PMP to accommodate variations in expected peat volumes and adapt reuse measures to actual site volumes.

iii. Set-up monitoring programmes to identify the new post-construction baseline, and provide a basis for monitoring the success of the PMP and identify appropriate mitigation where necessary.

Through the different stages of the project, the strategy should be to prevent disturbance to and losses of peat through appropriate reuse, wherever possible.

2.3 Definitions

The following definitions are used within this OPMP, these aligning with those highlighted in the CXC report, with additional definitions provided where necessary:

- **Peat soil:** in Scotland it is defined as soil with a surface peat layer with more than 60% organic matter and of at least 50 cm thickness. In this report the term ‘peat’ is used to mean peat soil.
- **Peaty soil:** Organo-mineral soil which have a shallow peat layer at the surface (less than 50 cm thickness) over mineral layers. SEPA (2026b) requires that this soil is considered within the OPMP since it forms part of the carbon-rich soil resource.
- **Peatland:** defined by the presence of peat soil or peaty soil where peat-forming vegetation is growing and actively forming peat or has down in the past – for active peat formation, waterlogged conditions and dominance of sphagnum mosses and cotton grass are usually required.
- **Priority peatland habitat:** sub-sets of peatland habitats which have been recognised under the Scottish Biodiversity Framework as being important to protect for their conservation and biodiversity value, usually corresponding to vegetation that is peat forming.
- **Excavation**: the physical removal of soil from infrastructure footprints to facilitate their construction.
- **Permanent excavation**: soil that is permanently removed from the infrastructure footprint, stored locally and reused elsewhere.

- **Temporary excavation**: soil that is temporarily removed from the infrastructure footprint, stored locally and fully **reinstated** at the point of excavation post-construction.
- **Translocation:** the permanent excavation, storage and placement of peat in a new location, including the separate storage of distinct stratigraphic units (turves / acrotelm / catotelm) and placement in their correct sequence.
- **Turves:** excavated blocks of upper vegetated peat, including vegetation, its underlying rooting medium (less decomposed peat) and a thin layer of more decomposed peat, typically equivalent to the acrotelm.
- **Reinstatement:** the return of soil and / or vegetation that has been excavated during construction to its original location to support recovery of its peatland function (including hydrology, carbon store and habitat).
- **Restoration**: improvement of the quality of peatland areas that have been degraded through non wind-farm management practices or by natural erosion – for these proposals, this may refer to both conventional forest-to-bog restoration and to restoration involving the use of excavated peat; the term is not used to describe reinstatement activities at infrastructure.
- **Landscaping**: the process of using soils to 'dress' or visually tie in infrastructure to the surrounding landscape. This is neither reinstatement not restoration.

With respect to the roles of statutory consultees, SEPA (2025a) state that they "*will provide advice on the avoidance, minimisation, and use of CRS* [carbon-rich soils] *in areas disturbed by construction activities*" and note that NatureScot "*will provide advice where peat is to be used for genuine restoration projects and not reinstatement*".

2.4 Proposed Development Approach

SEPA guidance (SEPA, 2025b) provides a hierarchy of management options in relation to excavated peat soil and peaty soil (SEPA, 2026b), as follows:

- **Prevent** creation of waste peat (through production of a peat management plan).
- **Use [peat] on site** in construction or reinstatement, e.g. restoration of hardstanding areas, borrow pits, road verges, peatland restoration.
- **Use [peat] off-site** to restore peatland areas (though this will require environmental authorisation).
- **Recycle / recover**, e.g. for agricultural benefit or to form a soil substitute when blended with other materials.
- If all other options have been explored and discounted, **dispose** of peat.

NatureScot (2026) provide a similar hierarchy derived from NPF4 as follows:

- **Avoid** - by avoiding peatland (peat soils and their associated habitats) altogether.
- **Minimise -** by reducing the overlap of infrastructure with peat, where it is possible to do so, and given other site and design constraints that may influence infrastructure locations.

- **Restore -** by repairing damaged habitats, both those affected by development and those degraded through previous site activities or natural degradation.
- **Offset -** by compensating for residual impacts that remain, with preference for on-site over off-site measures.

The strategy for peat soil and peaty soil management for the Proposed Development follows SEPA's guidance, aligns with NPF4, Soils, Policy 5 and is informed by the CXC report, and is summarised below before being described in detail in subsequent sections of this OPMP.

2.4.1 Prevent / Avoid

While peat is extensive across the Site (see section 3) and is therefore unavoidable, the creation of waste peat has been prevented for three of the five proposed turbine locations (T1-T3) by specifying piled foundations and floating hardstandings and by specifying widespread use of floating track. Further, peat excavation has been minimised by siting other infrastructure in the shallowest peat areas possible given other spatial constraints (such as watercourses and residential properties).

2.4.2 Reuse / Restoration

All excavated peat will be used on Site in line with SEPA guidance, firstly in reinstatement of temporary infrastructure, and then in restoration of peatlands degraded by coniferous plantation. The reuse proposals for restoration follow evidenced good practice for afforested peatland elsewhere in Scotland.

2.4.3 Disposal

There will be no peat recycling or disposal as part of the Proposed Development.

3 Site Characterisation

3.1 Site Overview

The Proposed Development is located on gently undulating ground on Glenouther Moor. The study area is shown on **Figure 9.3.1**, and falls from c. 240 m AOD in the north of the Site on Glenouther Rig to c. 210 m AOD at Swinzie Burn in the south.

Slope angles are generally very gentle across the Site (<2.5°), with locally steeper areas associated with the sides of Glenouther Rig in the north and with the Swinzie Burn valley in the south and west of the Site. Generally, slopes do not exceed 7.5°. **Figure 9.3.2** shows slope categories based on a composite of publicly available LIDAR data and OS Terrain 5 DTM data.

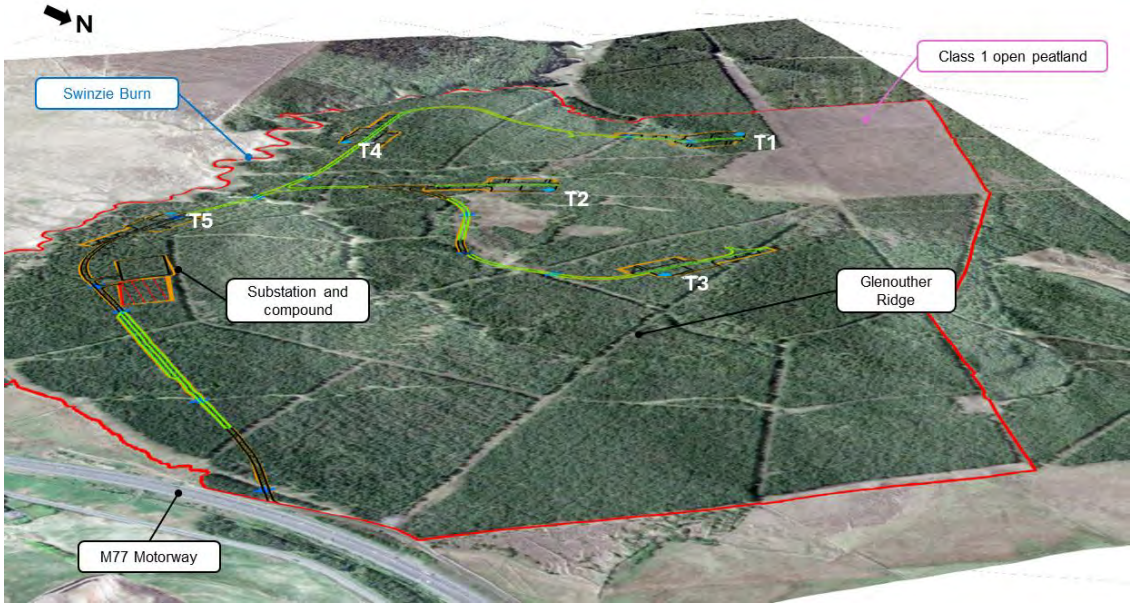


Plate 3.1 3D perspective view of Proposed Development noting key geographical features referenced in the report (note 2x vertical exaggeration)

Two minor watercourses drain into Swinzie Burn which runs along the south of the Proposed Development, and drains have been cut into the forestry to help lower water tables and support the growth of conifer plantation.

3.2 Peat Depth

Peat depth probing was undertaken in multiple phases in accordance with Scottish Government (2017) guidance to support layout design and calculation of peat extraction volumes.

A peat survey report (**Technical Appendix 9.2**) documents the findings of these site investigations:

- An initial Phase 1 survey was undertaken prior to scoping (September 2024) by MacArthur Green (part of SLR) on a 100 m grid, collecting 378 probes.

Post-scoping, two subsequent phases of Phase 2 probing were undertaken on 10 m grids within infrastructure footprints, on wider 20 m grids to support micro-siting and at 25 m intervals with 10 m offsets along access tracks. These were undertaken by Kaya Consulting Limited with each phase corresponding to layout changes:

- Phase 2 August 2025 where an additional 1,339 probes were collected.
- Phase 2 top-up January 2026 where an additional 445 probes were collected.

In total 2,162 points were collected, 378 at Phase 1 and 1,784 at Phase 2. 13 cores were collected.

Interpolation of peat depths was undertaken in the ArcMap GIS environment using a natural neighbour approach. The resulting peat depth model is shown on **Figure 9.3.3** along with the supporting peat probe locations. **Figures 9.7a-e** of **Chapter 9** provide depths associated with each probe location.

In summary:

- Peat is present across the Site, and for the most part exceeds 1.0 m in depth.
- A large part of the Site exceeds 4.0 m in depth, putting it far beyond depths appropriate for cut and fill foundations of tracks.
- While peat is locally shallow along the margins of Swinzie Burn, such areas are sparsely distributed and very much the exception.

The Carbon and Peatland (2016) Map (inset on **Figure 9.3.3)** shows the Site to comprise mostly Class 5 soil i.e. areas where no peatland habitat is recorded but soils are carbon-rich and deep peat. An area of Class 1 peat is shown in the west of the Site, this corresponding to a deep pocket of peat that exceeds 4.0 m in depth. This area does not overlap with proposed infrastructure. Class 4 is also present but does not overlap with proposed infrastructure.

3.3 Peat Geomorphology and Condition

Geomorphological mapping from satellite imagery and LiDAR data indicates most of the Site to be afforested by commercial conifer plantation with areas of planar (non-patterned) peatland in rides and glades between afforested areas. The large area of Class 1 peat in the west of the Site indicates likely former bog condition prior to forestry.

A small number of gullies are identified across the Site, primarily from LiDAR data with little obvious surface expression on satellite imagery. Scattered areas of checked growth in the middle of the Site (away from infrastructure) may indicate former hagged areas where ploughing and planting was difficult or where particularly wet ground has impeded growth.

Plates 3.2 and 3.3 show typical Site conditions observed during field survey.

3.4 Land Use

The dominant land use type of the Site is forestry. Self-seeding of conifers is occurring into the Class 1 area of the Site and within the numerous forest rides. Much of the forest is planted in very deep peat, which, in some areas has led to checked (poor) growth. In such areas, conifers may take a very long time to achieve commercial objectives for their growth or may never do so, and restoration back to bog is not likely to compromise forestry objectives. Under current guidelines, were the bog to be in its original condition (prior to planting of the current crop), it is unlikely that it would have been planted at all. In addition to forestry, there is a small hardstanding area of c. 600 m^2 identified at the Site entrance, attached to the unnamed track that runs parallel to the M77.



Plate 3.2 a) Swinzie Burn in open ground, b) self-recovered forest drain with rich *sphagnum* cover, c) standing water in void left by root plate



Plate 3.3 a) Ground conditions in an open ride (including some natural regeneration of conifers from self-seeding, b) the margin of Class 1 peatland in the west of the Site, c) locally higher quality bog habitat in an open glade within forestry, d) poor habitat within forest

4 Peat Excavation and Storage

4.1 Iterative Layout Design

Design mitigation has focused on avoiding the deepest peat on Site, adopting peat-sensitive construction methodologies (such as piling and floating track) and implementing compensatory habitat management works to offset unavoidable impacts on areas of peatland habitat (which is generally confined to inter-coup rides and glades and to limited areas of open ground around watercourses.

As a result of careful iterative design, impacts on peat have been minimised insofar as possible within the Proposed Development. **Table 4.1** summarises the key design iterations, with further detail provided in **Chapter 3: Site Selection and Design Strategy** of the EIA Report.

Layout	Layout Summary	Supporting Data	Comments
Scoping	5 Turbines	Phase 1 (100 m) grid	Initial layout comprising turbine centres only to inform request for Scoping Opinion.
IL1 / IL2	5 Turbines and high-level infrastructure	Phase 1 (100 m) grid	For review by EIA topic leads.
IL3	5 Turbines and updated high-level infrastructure	Phase 1 (100 m) grid	Hardstands for T1 and T3 rotated to reduce peat impacts, track arrangement revised to reduce peat impacts in centre of Site.
IL4	Design chill for 5 Turbines and infrastructure	Phase 1 (100 m) grid	Main access, substation and construction compound moved into shallower peat.
Collection of Phase 2 probing data			
IL5	Adjusted for hydrology, LVIA and ecology	Phase 1 and Phase 2 grid	Adjustments to T1 for hydrology.
IL6	As IL5, but incorporating piled foundations	Phase 1 and Phase 2 grid	Minor adjustments to T1, T2 and T3 for hydrology.
Collection of additional Phase 2 probing data			
IL7	As IL6	Phase 1 and extended Phase 2 grid	Minor adjustments to track between T4 and T5 and to T5 hardstand position.
IL8	As IL7	Phase 1 and extended Phase 2 grid	Minor rotation and / or repositioning of T1, T3, T4 and substation.
Initial peat calculations undertaken to determine whether balance achievable for IL8			

Layout	Layout Summary	Supporting Data	Comments
IL9	As per IL8, but substation and CC swapped	Phase 1 and extended Phase 2 grid	Reducing length of grid connection route.
IL10	Design freeze	Phase 1 and extended Phase 2 grid	Minor adjustment to T1 hardstandings for hydrology

Table 4.1 Summary of iterative design with respect to peat and hydrology

The layout of the Proposed Development has been informed by the peat model as follows:

- Turbine 1 has been located in the shallowest peat area available in the west of the Site (given spacing requirements from T4).
- The construction compound, substation compound and Turbines 4 and 5 have been located in areas of shallower peat / peaty soil in the southern part of the Site.
- Alternative construction types have been adopted for turbines in areas where peat generally exceeds 1.0 m in depth with turbine foundations and hardstandings at Turbines 1, 2 and 3 proposed to be piled and / or floated depending on infrastructure type.

A large proportion of the access track is proposed to be floated (2.8 km out of a total of 4.1 km – 68%), as well as the temporary hardstandings at Turbines 1, 2 and 3. This has been proposed for tracks which are on peat depths >50 cm and on slopes of less than 3 degrees for over at least 100 m. The next section considers the approach to peat excavation calculations.

4.2 Approach

In this section, the definitions provided in section 2.3 are used to describe excavation associated with construction. Excavation volumes have been calculated as the product of the peat depths under each footprint (derived from the peat model) and the footprint areas shown on **Figure 9.3.3.**

Where excavation is required, earthworks footprints are included in the calculations, with the assumption that standard cut and fill earthworks will require removal of top soil / peat prior to placement of fill materials or in order to achieve the desired ground surface for cuts.

4.2.1 Non-excavated Infrastructure (Turbines 1, 2 and 3)

Due to selection of low impact construction methodologies, a substantial proportion of the Proposed Development infrastructure involves no peat excavation at all. **Figure 9.3.3** shows all infrastructure broken down into non-excavated and excavated footprints, as follows:

- The foundations for Turbines 1, 2 and 3 will be piled (e.g. **Plate 4.1**) rather than excavated, with the main hardstandings also piled. Temporary hardstandings for these locations will be floated. Earthworks surrounding both sets of infrastructure will be floated and primarily for landscaping purposes.
- Much of the proposed access track (approximately 2.8 km) will be floated, this being enabled by the generally low gradients present across most of the Site (<5% or c. 3° which is usually the threshold for this form of construction). Exceptions are the junction south of

Turbine 2, the track running from Turbine 5 east past the substation and construction compound and a short stretch of the main access track where slopes are higher.

In all, use of these techniques saves at least 68,000 m^3 of peat excavation at these three turbine locations based on the footprints alone, noting that earthworks (if they were to be cut) would be substantially larger than shown on **Figure 9.3.3**. Similarly, the use of floating track saves c. 27,800 m^3 of peat excavation, again noting that the track footprints would likely be substantially wider if of cut and fill construction.

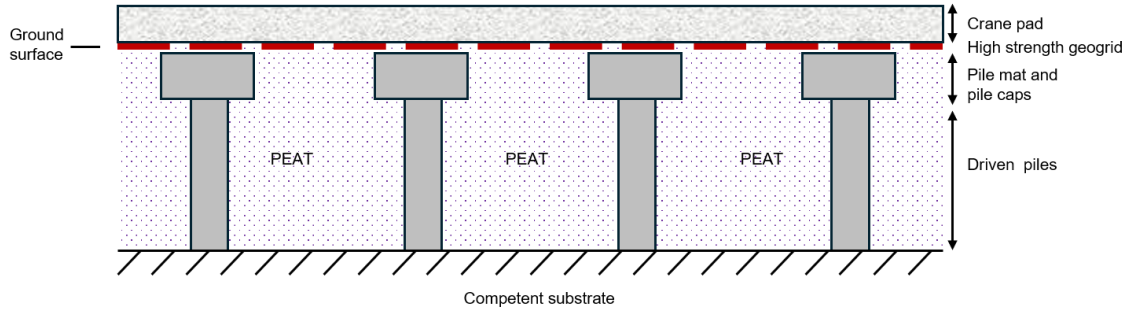


Plate 4.1 Indicative arrangement of piled foundations with pile cap, geogrid and crane pad

4.2.2 Treatment of acrotelm and catotelm

The hydrological characteristics of peat are critical to its surface vegetation cover, and in turn, habitat. The hydrological function of peat is usually considered in terms of an upper 'acrotelm' layer and lower 'catotelm' layer. The acrotelm lies above the level of seasonal water table fluctuations and displays active root growth, while the catotelm below it remains permanently saturated, is relatively impermeable and contains a majority of the carbon store. The suitability of each layer for reuse or restoration varies, and therefore it is generally considered good practice to calculate the relative volumes of acrotelmic and catotelmic peat likely to be disturbed during construction.

For each infrastructure and earthwork footprint, the upper 0.3 m of the peat profile is assumed to be acrotelm and any remaining depth is assumed to be catotelm. A 0.3 m thickness of turf and underlying peat is a sufficiently thick continuous layer to avoid damaging the roots of the excavated vegetation and, in open bogs, generally provides a coherent 'turf' to lay over placed catotelmic materials.

In afforested bog, however, the surface hydrology of the bog is generally entirely compromised by ploughing of ridges and furrows, purposefully designed to dry ridges and encourage rooting and growth of young trees, while confining surface and near surface water to the furrows where it will actively drain away. Ridges remain drained subsequent to furrow blocking if this is the primary forest-to-bog restoration method.

Feedback from contractors delivering forest-to-bog restoration in other contexts is that transplantable turves are usually difficult to excavate, if present at all, however, the upper layer of peat (no longer operating as a true acrotelm) is still preferable as the upper layer of any reinstatement location since it contains the least degraded seed stock of the underlying peat, and evidence from other forest-to-bog sites both in Scotland and Wales is that recovery of natural vegetation is much improved when upper layers are reinstated at the surface. The seed stock is important in being able to respond to enhanced light and warmth once the forest canopy has

been removed. In Section 5, while indicative acrotelmic and catotelmic reuse values are quoted, given the limited applicability of this definition to afforested soils, the primary intent is to balance the total volume of peat, rather than the two layers.

While this OPMP still calculates an acrotelm / catotelm split based on a 0.3 m acrotelm depth, it is not considered necessary to achieve a balance of reuse across the two peat types (as there will not be a hectarage of turves that require placement).

Soils less than 0.5 m in depth are assumed to be organic-rich peaty soils other than peat. These soils are less likely to have a functioning acrotelm and catotelm, particularly where formerly afforested, they hold less carbon (by virtue of being shallower and in likelihood drier) and are less capable of supporting the highest quality peatland habitats.

4.3 Excavation calculations

4.3.1 Turbines 4 and 5

Turbines 4 and 5 will be constructed using conventional cut and fill techniques owing to the relatively shallow peat underlying their footprints. Piling is not possible in these locations as the total depth of the pile, pile cap and load transfer platform would lead to a substantial above ground structure and a need to build track up to the finished surfaces (increasing track footprints on the run ins to either side).

The main hardstanding footprint incorporates the turbine foundation and will be permanently excavated since it is required throughout the operational life of the Proposed Development for maintenance. The ancillary hardstandings for secondary cranes and blade laydowns will be temporarily excavated, though clearance areas will be non-excavated. Earthwork footprints around the temporary footprints will be reinstated post-construction, but retained around the main hardstanding. In addition, at Turbine 5, cut and fill track running between the hardstandings is also included in the calculation. **Table 4.2** shows permanent and temporary peaty soil and peat excavation volumes associated with the two turbines.

		Excavation Volume (m^3)			
Infrastructure	**Type of Excavation**	**Acrotelm**	**Catotelm**	**Peaty Soil**	**Total Peat**
T4 Main hardstanding	Permanent	410	1,831	0	2,240
T4 Ancillary hardstandings	Temporary	913	2,365	28	3,278
T4 Earthworks	Permanent	86	430	0	516
T4 Earthworks	Temporary	116	205	4	321
T5 Main hardstanding	Permanent	410	588	0	997
T5 Ancillary hardstandings	Temporary	1,022	1,803	0	2,825
T5 Track	Permanent	290	511	0	800
T5 Earthworks	Permanent	177	429	0	606

		Excavation Volume (m^3)			
T5 Earthworks	Temporary	63	126	0	189
Total Permanent		**1,372**	**3,788**	**0**	**5,160**
Total Temporary		**2,113**	**4,500**	**32**	**6,613**

Table 4.2 Excavation calculations associated with Turbines 4 and 5

4.3.2 Access tracks

Access tracks comprise a 6 m wide running surface and will be of cut and fill construction for c. 1.3 km and of floating construction for c. 2.8 km. Excavation for new tracks will take place over the full footprint of the track and its earthworks. **Table 4.3** shows permanent peaty soil and peat excavation volumes for new cut and fill access track.

Infrastructure	Type of Excavation	Acrotelm	Catotelm	Peaty Soil	Total Peat
Substation	Permanent	1,800	3,171	0	4,971
Substation Earthworks	Permanent	187	389	0	576
Compound	Temporary	1,727	2,001	112	3,728
Compound Earthworks	Temporary	274	378	5	652
Track	Permanent	1,750	7,415	127	9,165
Track Earthworks	Permanent	672	2,643	54	3,315
Total Permanent		**4,409**	**13,618**	**181**	**18,027**
Total Temporary		**2,001**	**2,379**	**117**	**4,380**

Table 4.3 Excavation calculations associated with new access tracks, the substation compound and temporary construction compound

4.3.3 Substation

The substation compound has an area of 6,000 m^2 with associated earthworks and will be permanently excavated over its full footprint, with a small area of surrounding earthworks. **Table 4.3** shows the permanent peat excavation volumes for the substation area.

4.3.4 Construction Compound

The construction compound will be temporarily excavated over its footprint of 6,000 m^2 to a depth of c. 2 m below the prevailing ground surface and then reinstated with up to 2.0 m of peat following completion of construction. **Table 4.3** shows the temporary peaty soil and peat excavation volumes for the compound.

4.4 Temporary Storage

Where possible, permanently excavated peat will be single-handled directly to a reuse location, which in most cases will be for restoration of felled plantation areas within the felling area for

construction. Where temporary storage is required, consideration must be given to the stability of stored materials.

In recent years, a handful of peat instability events have occurred in association with sidecasting of materials to the track margins on peat covered sites (Mills, 2024). In afforested sites, there is considerable ground roughness downslope of sidecast materials where trees have been felled and an effective debris screen in the form of standing stock. Nevertheless, an assessment of loading at tracksides has been undertaken for all excavated track sections as part of the PLHRA (**Appendix 9.4**) and any areas identified as of marginal stability or lower should be avoided for sidecast materials.

4.5 Summary

Table 4.4 summarises the temporary and permanent excavation volumes for the Proposed Development infrastructure separated into acrotelmic peat, catotelmic peat, total peat and total peaty soil. Figures are quoted to 1 m^3 to reduce rounding errors leading to inaccurate totals in later tables rather than to imply accuracy of calculations to 1 m^3.

Infrastructure	Type of Excavation	Acrotelm	Catotelm	Peaty Soil	Total Peat
Turbines 4 and 5 (including hardstanding and earthworks)	Permanent	1,372	3,788	0	5,160
Turbines 4 and 5 (including hardstanding and earthworks)	Temporary	2,113	4,500	32	6,613
Substation and Non-Floated Tracks	Permanent	4,409	13,618	181	18,027
Construction Compound	Temporary	2,001	2,379	117	4,380
Total Permanent		**5,781**	**17,406**	**181**	**23,187**
Total Temporary		**4,114**	**6,879**	**149**	**10,993**

Table 4.4 Peat excavation volumes for all infrastructure

Section 5 documents the reuse proposals for peat excavated during construction.

5 Reuse

5.1 Overview

Peat will be reused in two ways within the Site:

i. Reuse of peat to reinstate temporary infrastructure; and

ii. Translocation of peat to support forest-to-bog peatland restoration.

An overview of these reuse proposals is followed by detailed calculations and outline method statements in sections 5.2 and 5.3.

5.1.1 Use in reinstatement

Reinstating temporary infrastructure is a standard peat reuse procedure for wind farms in peatland environments, and is considered best practice in relation to the mitigation hierarchy if avoidance is not possible. Reinstatement of temporary infrastructure returns peat to its point of origin, in the stratigraphic sequence in which it was excavated. Details are provided in section 5.2 below.

5.1.2 Use in restoration

Reuse of peat to support forest-to-bog restoration has been based on ongoing trials overseen by FLS on other afforested deep peat sites undergoing forest-to-bog restoration in Scotland. This choice of reuse reflects the general absence of other opportunities within or adjacent to the Site. There are no areas of peat cutting restorable using translocated peat, and there are no eroded areas (hagged areas, large gullies or peat pans) restorable using translocated peat.

Translocated peat may be of value in forest-to-bog restoration by facilitating the creation of a smoothed surface lacking shallow brashy material from the felling stage, and which is therefore more amenable to shallow water retention and facilitating recovery of bog species that prefer wetter conditions (including bog mosses and cotton grass).

It should be noted that conventional ground smoothing, in which the ground surface is tracked over by low ground pressure plant, may also result in equivalent conditions without the need for peat, and it is recommended that ground smoothing is undertaken wherever translocation is not used for forest-to-bog, provided slopes are neutral or close to neutral.

The intention of the reuse proposals within this OPMP is to ensure the best quality outcome for the wider peatland while enabling the construction of a renewable energy scheme. The reuse measures for restoration presented in this OPMP are provided in addition to extensive forest-to-bog proposals outlined in the Biodiversity Enhancement Management Plan (Technical Appendix 7.6), with these latter measures addressing NatureScot's target compensation ratio for direct and indirect impacts on priority peatland habitats of 1:10 (impacts to compensation) and additional enhancement.

5.2 Reinstatement calculations for temporary infrastructure

Temporary excavations are present at Turbines 4 and 5 and the construction compound. Peat excavated from these locations will be reinstated in the stratigraphic sequence in which it was excavated, with catotelmic peat placed first, and surface peat (nominally acrotelm) with its seed

bank as the upper 0.3 m. **Table 5.1** shows the temporary reinstatement volumes for this infrastructure.

	Reinstatement Volumes (m^3)		
Infrastructure	**Acrotelm**	**Catotelm**	**Total Peat**
Turbines 4 and 5	2,113	4,500	6,613
Construction Compound	2,001	2,379	4,380
Total reinstatement	**4,114**	**6,878**	**10,993**

Table 5.1 Reinstatement volumes for temporary infrastructure

Based on these calculations, the remaining peat surplus after reinstatement of temporary infrastructure is 23,187 m^3 (i.e. the total permanent excavation volume shown in **Table 4.4**). Note that additional accommodation space is to be made available within the construction compound (see Table 5.2). A further 1.27 m of peat will be placed within the construction compound to bring the total depth within its footprint to c. 2.0 m. when reinstating the compound, catotelmic peat from the compound will be placed with additional catotelmic peat from elsewhere, prior to topping with acrotelmic peat.

5.3 Reuse Calculations for Forest-to-Bog Restoration

The remaining permanently excavated peat will be utilised in forest-to-bog restoration as part of long term proposals to open out the forest around the existing Class 1 peatland in the north-west of the Site. While standard restoration techniques will be used over a majority of the felled areas, peat translocation offers an opportunity to reuse peat to encourage restoration close to infrastructure where peat can be placed with long-reach excavators with minimal tracking.

5.3.1 Outline Principles

Based on trials being undertaken by FLS in Caithness on a wind farm site on FLS land holdings, peat translocation is proposed for the Proposed Development as a means of positively reusing peat to support forest-to-bog restoration (e.g. **Plate 5.1a**). Based on these ongoing field trials, translocation depths for peat over formerly afforested surfaces up to 0.30 m produce positive results, and this depth has been specified for the translocation areas identified across the Site, (see **Figure 9.3.4**). In order to identify and define these areas, the following constraints have been applied:

1. **Ground slope** – ongoing trials have taken place on neutral to gentle slopes, less than 5° and frequently less than 3°. In all cases, average slope within the proposed translocation areas is < 3°.
2. **Peat depth** – in common with the ongoing FLS trials, peat will be translocated over in-situ peat of moderate depth.
3. **Proximity to proposed infrastructure** – in order to facilitate movement of excavated materials to translocation areas, all translocation areas have been specified to directly adjoin the proposed track network or hardstanding areas.

In order to translocate peat to these areas, felling must be undertaken to enable access for plant. The mode of felling is important in preparing the ground surface for forest-to-bog restoration. For

conventional ground smoothing (in which stumps are flipped and then cross-tracked by a large low ground pressure (LGP) excavator, see **Plate 5.1b**), the lower to the ground stemwood can be harvested, the better the outcome. At the time of submission, tree shears (see **Plate 5.4c**) enable cutting of stems close to the ground surface. Thereafter, lodgepole pine can be pushed sideways into furrows, or stump flipped. Sitka Spruce, which comprises much of the stock at the Proposed Development Site, can only be pushed sideways where the root plates are small, which is generally the case for younger or growth checked trees. Mid and large sized Sitka root plates must be flipped.



Plate 5.1 a) Peatland recently restored using translocated peat b) low ground pressure excavator with 2.2 m centre-driven tracks, c) tree shears, d) a modified low ground pressure forwarder with wide tracks (used at Clashindarroch forest)

Ideally 'off the shelf' plant will be used to deliver the works, as these are more readily available and have a wider operator base, however, dependent on ground conditions post-felling, modified plant (such as that shown in **Plate 5.1d**) might be required.

5.3.2 Access

Although the majority of the translocation areas will be accessible directly from constructed tracks and hardstandings, there may be local requirements to access using temporary tracks, in particular to the north of Turbine 2 and in the bat exclusion areas (BEAs) around Turbines 3 and 5. It is anticipated that brashmats formed of stemwood and brash would be sufficient to fulfil this need, or potentially corduroy roads may be required where conditions are particularly soft (Murgatroyd & Saunders, 2005).

5.3.3 Sequence of Works

Forest-to-bog restoration work, like all peat restoration, is continually evolving and more optimised methods may be available at the time of construction. However, the currently proposed sequence of work is as follows:

i) If not already felled at the point of construction, forest will be felled to ground level using shears;

ii) Sitka brash and stemwood will be used to construct brash mats for peat transport;

iii) Inter-mat areas will be worked as follows:

   a. Working into the translocation area, the excavator will flip or sidecast stumps depending on size and species of tree.

   b. Stumps will then be cross-tracked to punch into the ground surface (i.e. ground smoothed).

   c. The excavator will rotate 180° ready to receive peat transported from the LGP dumpers.

   d. Peat will be tipped into the translocation area and distributed by the excavator.

   e. The excavator will rotate 180° and translocate mosses from the furrows of the next section of translocation area, placing them over the newly distributed peat and tamping down if required.

   f. The excavator will then rotate 180° and repeat the sequence above.

iv) The target depth for translocated peat is to a depth of c. 0.3 m;

v) Once inter-brash areas have been restored, brash mats will be stripped and any peat >0.3 m will be spread over the former brash mat alignment, with harvested and stored mosses from turbine locations used to provide a surface cover.

vi) Any vulnerable (very wet or bare) peat will be considered for geotextiles or seeding using Site appropriate seed mixes to help stabilise the ground surface.

Monitoring will be undertaken following reinstatement of each translocation area to ensure that the restoration trajectory is as intended. The optimal outcome is for a return to a wetted surface with preferential growth of bog mosses and cotton grass. **Plate 5.2** provides an indication of general working arrangements where brash mats are required.

5.3.4 Identification of Translocation Areas

In order to identify these areas, a 15 m buffer was defined along all permanent surfaces (both hardstandings and tracks). This distance is equivalent to the maximum reach of a long-reach excavator and is the zone within which peat can be redistributed without tracking over felled surfaces.

In addition, BEAs defined around each turbine also provide an opportunity for peat reuse close to infrastructure. Given that there is security of felling within 15m (to facilitate swept paths for blade transport) and within the BEAs (as it is required prior to the turbines becoming operational), these areas form a key focus of peat reuse.

In addition to the BEAs an area of residual felling separated by glades has also been identified to the east of Turbine 2. The open areas already present have been naturally recovering post-felling and ridges and furrows are still faintly visible on the ground.

All reuse areas are already in areas of peat, and therefore are suitable for accommodation of an additional thin (0.3 m) layer of peat transported from infrastructure locations. Slope angles are gentle (typically <2.5°) across the vast majority of target locations. Although there is minimal chance of remobilisation of peat once placed due to the very low slopes, all locations are bordered by either track on the downslope side or separated from watercourses by a retained forest margin (e.g. on the loop from Turbine 4 to Turbine 1).

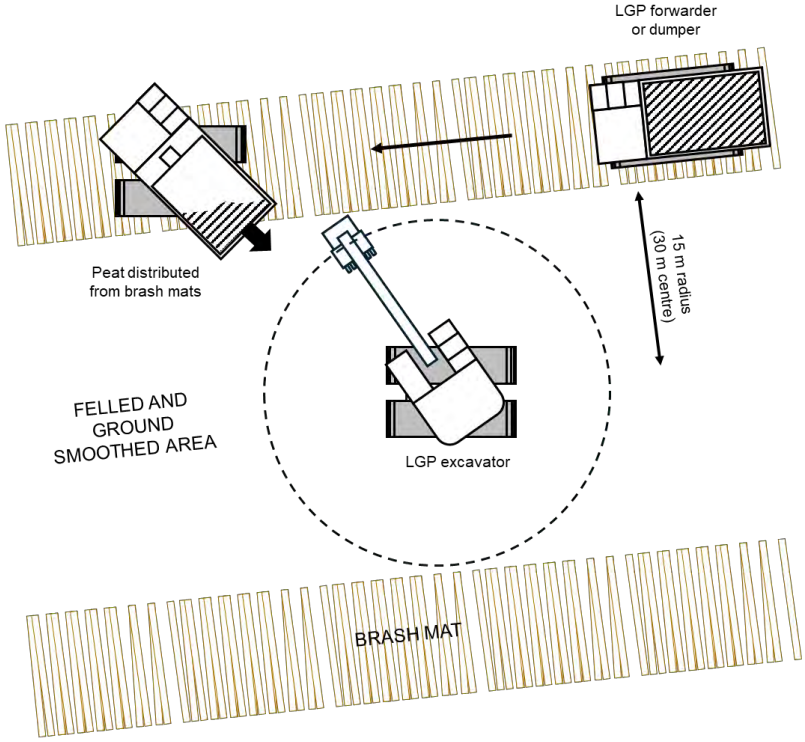


Plate 5.2 An indication of the working arrangements for LGP excavators and modified forwarders / dumpers when working in translocation areas, 'brash mats' may also be constructed as corduroy roads

5.3.5 Calculated Reuse Volumes

Table 5.2 shows calculated reuse volumes of peat for reinstatement and for forest-to-bog restoration in the BEAs and along infrastructure margins.

Infrastructure	Target depth (m)	Area (ha)	Volume (m^3)
Construction Compound (additional reinstatement)	1.27	0.60	7,620
Turbine 3 and 5 BEAs	0.3	2.49	7,469
Translocation to Support Forest-to-Bog Restoration	0.3	4.15	8,310
Total reinstatement	**-**	**7.24**	**23,399**

Table 5.2 Reuse volumes for construction compound and forest-to-bog restoration

5.4 Peat Balance

Table 5.3 shows the peat mass balance for the Proposed Development based on the excavation volumes in Section 4 and the reuse proposals in this section.

	Volume (m^3)		
	Acrotelm	**Catotelm**	**Total Peat**
Total Permanent Excavation	5,781	17,406	23,187
Total Additional Reuse for Construction Compound, Turbine 3 and 5 BEAs and to support forest-to-bog restoration through translocation	-	-	23,399
Peat mass balance	**-**	**-**	**-212**

Table 5.3 Peat balance

Note that acrotelmic and catotelmic volumes are not currently separated for the overall balance. As noted in Section 4.2.2, acrotelmic material is typically preferred for use in translocation work due to the seedbank retained within it, even after decades of forestry. While this OPMP currently indicates that all temporarily excavated acrotelm will be returned to its source locations, it may be preferable to utilise a subset of this material (c. 50%) to support forest-to-bog work in translocation areas, with catotelmic material and seed plugs of *sphagnum* and cotton grass used to reinstate the temporary footprints. This will be dependent on:

i) The quality of vegetation found over the temporary excavation footprints under the forest canopy; and

ii) The availability of local donor vegetation in forest rides and glades (which would preclude the need for acrotelmic material from temporary locations).

Critically, the use of innovative piled and floated solutions for turbines in the deepest peat areas, alongside extensive use of floating track and the identification of locations for peat translocation mean that a peat balance can be achieved for the Proposed Development.

5.5 Reuse of shallow peaty soils

The previous sections address peat volumes excavated as part of the Proposed Development. Peaty soil excavation volumes are minimal for the Proposed Development (330 m^3) and it is recommended that these soils are used for tying in infrastructure, where this is required.

The next section summarises good practice for excavation, handling, storage re-use and monitoring associated with peat excavations at the Proposed Development Site.

6 Good Practice

6.1 Background

Good practice measures in relation to peat excavation and reuse are now generally well defined following a number of years of practice (at wind farm sites) across the UK and Ireland. In Scotland in particular, there is an increasing body of experience relating to peat restoration, facilitated by Peatland Action (Scottish Natural Heritage, 2017). As a result, there are a number of specialist contractors who have experience in the planning, design and implementation of peat restoration works in the Scottish uplands. A key step in delivering the restoration proposals described above is identification of appropriate forest-to-bog restoration contractors to implement the restoration works in the highlighted locations.

This section outlines good practice measures related to excavation and handling, storage, and reinstatement and restoration of peat in association with construction.

6.2 Excavation and Handling

The following good practice measures are proposed for excavation and handling:

- A minimum thickness of 0.3m of acrotelmic peat or turved organic soil should be excavated where sufficient soil is present; where less than 0.3m is present, the full depth of soil and surface vegetation should be excavated;
- Excavation and transport of peat/soil shall be undertaken to avoid cross-contamination between soil horizons (e.g. organic soil and underlying mineral soil / substrate);
- Where possible, cross-tracking of plant over undisturbed vegetation should be minimised, and excavated materials transported to their storage locations along constructed or existing track, or in the case of forest-to-bog areas, along suitably robust brashmats, corduroy roads, or, where necessary other suitable temporary surfaces;
- If working is required away from constructed roads / tracks, the use of long reach excavators should be encouraged in order to minimise cross-tracking;
- If landscaping of road / track margins is required for temporary works, it is preferable for vegetated shallow peaty soils or organo-mineral soils to be used for this purpose rather than acrotelmic peat (which should be stored and utilised in forest-to-bog work or reinstatement of temporary construction footprints); and
- Wherever possible, double handling of peat should be minimised (in particular for catotelmic peat) by direct transport of materials to their point of storage.

6.3 Storage

The following good practice measures are proposed for storage:

- Storage should be eliminated where possible by single handling from the point of excavation to the location of reuse.
- If storage cannot be avoided, minimise storage time by taking a holistic approach to excavation and restoration such that catotelmic peat (in particular) is used as soon as possible after excavation.

- Store excavated acrotelmic and catotelmic peat separately during excavation works, which will be undertaken by an experienced contractor specialising in peat groundworks and restoration.
- Acrotelmic peat and turved soil blocks should be stored turf side up to prevent damage to vegetation.
- Storing in areas of minimal gradient where 'runoff' or drainage away from the point of storage is minimised (these areas will also satisfy to avoid areas of lower stability)
- Fewer, larger stores will be preferable to a greater number of small stores, since the total potential area of drying surface will be less.
- Where storage is required in the medium term, preparing the peat to minimise the surface exposed to drying (e.g. through blading off of catotelmic peat and use of appropriate cover to minimise moisture loss).
- A Peat ECoW should work with an appointed Geotechnical Engineer (GE) to review the placement and condition of stored peat.
- Storage areas should be outside any area identified in the PLHRA as of 'Moderate' or greater natural likelihood (see **Technical Appendix 9.4**) and should be more than 50 m away from watercourses, away from sensitive habitats and away from the edge of excavations.
- Peat and soil stores should be appropriately bunded to prevent risks from material instability and prevent runoff of sediment and water from the stockpiles
- The condition of the excavated peat, in particular its moisture content, should be regularly monitored and local water utilised to periodically 'refresh' stored peat and prevent desiccation.

6.4 Reinstatement and Restoration

The following general good practice measures are proposed for reinstatement and restoration and supplement the more specific recommendations in section 5:

- Where possible, turves and underlying catotelmic peat should be reinstated at the locations from which they were removed.
- Any bare peat exposed at the surface of a reinstated area should be seeded with a seed mix or translocated vegetation appropriate to the locality.
- Where insufficient turves are available to fully cover reinstated soils, a checkerboard pattern of turf blocks should be used, with turf squares no less than 1 m^2 to act as seed points interspersed amongst the bare areas.
- Reinstated ground levels should tie in with the surrounds, and any bulking up should be avoided by tamping down soils and turves.
- If appropriate, temporary fencing may be required to enable vegetation to establish following reinstatement works and prevent damage by livestock, deer or rabbits.

6.5 Monitoring

During construction, monitoring should be undertaken in any areas where peat is stored, as follows:

- Regular visual inspection of the outer peat surface of any stored peat to identify any evidence of drying or cracking.
- Regular coring of stored peat to log the moisture content of stored peat (using the von Post scale to monitor changes in moisture content for peat on the outside and within the peat mound).
- Clear specification of an action plan in response to these observations, including modifications to coverings, implementation of watering, or construction of temporary berms to retain water in the storage footprint.
- Acceleration of re-use for vulnerable stores if so identified.

Key to the success of the strategy for peat management will be careful monitoring of the post-construction works and any restoration activities. A monitoring programme should be initiated once restoration and peat reinstatement works have been completed, and should include:

- Review of % vegetation cover and vegetation composition in areas of bare peat that have been reinstated or restored, or in any areas that have been seeded (due to a lack of available turved material or harvested bog mosses).
- Review of stability of deposits in their new locations by inspection and fixed point photography.
- Fixed point photography of vegetation change in order to aid review over a series of monitoring intervals. All turbine locations and all translocation areas should be subject to a detailed monitoring programme until they are well established on a trajectory of recovery.

If required, mitigation recommendations should follow from the monitoring and include:

- Specification of seeding appropriate to the target vegetation or stabilisation with geotextile if revegetation is not occurring naturally (which will assist re-wetting and retention of moisture contents).
- Construction of wood dams (or equivalent) if any creep of peat soils is evident at any restored or translocated location.
- Monitoring should be carried out for a minimum of five years after construction and reinstatement works have concluded.

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649800 649600 649400 649200 649000 648800 648600 648400 648200

N

Glenouther Rig

Glenouther Moor

1 2 3 4 5

Legend

- Site boundary
- Turbine
- Construction compound (temporary)
- Substation compound
- New access track/ turning head (floated)
- New access track (excavated)

Hardstanding (Temporary)

- Floating hardstanding (temporary) (T1, T2 and T3)
- Piled auxiliary crane pad (temporary) (T1, T2 and T3)
- Excavated hardstanding (temporary) (T4 and T5)

Hardstanding (Permanent)

- Piled turbine foundation/ hardstanding (permanent) (T1, T2 and T3)
- Excavated turbine foundation/ hardstanding (permanent) (T4 and T5)
- Earthworks
- Watercourse crossing

Elevation (m)

- 200 - 205
- 205 - 210
- 210 - 215
- 215 - 220
- 220 - 225
- 225 - 230
- 230 - 235
- 235 - 240

0 50 100 150 200 Metres

Scale at A3: 1:6,500

Spatial Reference:
Name: British National Grid
Projecton: Transverse Mercator

Service Credits:
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Glenouther Wind Farm
Peat Management Plan

Figure 9.3.1: Elevation

Drawn by: ST
Approved by: AM

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247400 247600 247800 248000 248200 248400 248600 248800 249000 249200

649800 649600 649400 649200 649000 648800 648600 648400 648200

N

Glenouther Rig

Glenouther Moor

1 2 3 4 5

Legend

- Site boundary
- Turbine
- Construction compound (temporary)
- Substation compound
- New access track/ turning head (floated)
- New access track (excavated)

Hardstanding (Temporary)

- Floating hardstanding (temporary) (T1, T2 and T3)
- Piled auxiliary crane pad (temporary) (T1, T2 and T3)
- Excavated hardstanding (temporary) (T4 and T5)

Hardstanding (Permanent)

- Piled turbine foundation/ hardstanding (permanent) (T1, T2 and T3)
- Excavated turbine foundation/ hardstanding (permanent) (T4 and T5)
- Earthworks
- Watercourse crossing

Slope (°)

- 0.0 - 2.5
- 2.5 - 5.0
- 5.0- 7.5
- 7.5 - 10.0
- 10.0- 15.0
- > 15.0

0 50 100 150 200 Metres

Scale at A3: 1:6,500

Spatial Reference
Name: British National Grid
Projecton: Transverse Mercator

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Glenouther Wind Farm
Peat Management Plan

Figure 9.3.2: Slope

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247400 247600 247800 248000 248200 248400 248600 248800 249000 249200

649800 649600 649400 649200 649000 648800 648600 648400 648200

N

Carbon and Peatland Map (2016)

Glenouther Rig

Glenouther Mor

1 2 3 4 5

Glenouther Rig

Glenouther

Legend

- Site boundary
- Turbine
- Construction compound (temporary)
- Substation compound
- New access track/ turning head (floated)
- New access track (excavated)

Hardstanding (Temporary)

- Floating hardstanding (temporary) (T1, T2 and T3)
- Piled auxiliary crane pad (temporary) (T1, T2 and T3)
- Excavated hardstanding (temporary) (T4 and T5)

Hardstanding (Permanent)

- Piled turbine foundation/ hardstanding (permanent) (T1, T2 and T3)
- Excavated turbine foundation/ hardstanding (permanent) (T4 and T5)
- Earthworks
- Watercourse crossing

Interpolated depth (m)

- 0.0 - 0.3
- 0.3 - 0.5
- 0.5 - 1.0
- 1.0 - 2.0
- 2.0 - 3.0
- 3.0 - 4.0
- 4.0 - 5.0
- Probe Locations

Carbon and Peatland Map 2016 (Insert)

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5
- Mineral Soil

0 50 100 150 200 Metres

Scale at A3: 1:6,500

Spatial Reference
Name: British National Grid
Projection: Transverse Mercator

Service Credits:
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Glenouther Wind Farm
Peat Management Plan

Figure 9.3.3: Peat Depth

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247400 247600 247800 248000 248200 248400 248600 248800 249000 249200

649800 649600 649400 649200 649000 648800 648600 648400 648200

N

1 2 3 4 5

Legend

- Site boundary
- Turbine
- OG
- Forest to Bog
- Future Forest Management Area
- Restocking Post Construction
- Forest Edge/Riparian Planting
- Infrastructure After Restocking
- Peat Translocation Areas
- Peat reuse within CC

0 50 100 150 200 Metres

Scale at A3: 1:6,500

Spatial Reference
Name: British National Grid
Projection: Transverse Mercator

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Glenouther Wind Farm
Peat Management Plan

Figure 9.3.4: Peat Reuse and Peat Translocation Areas

Drawn by: ST
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