Technical Appendix 8.2: Peat Management Plan

Glentarken Wind Farm

SSE Renewables

Prepared by:

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Basis of Report

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1.0 Introduction

1.1 General

SLR Consulting Ltd (SLR) was commissioned by SSE Generation Ltd (the 'Applicant'), to undertake a Stage 1 Peat Management Plan (PMP) at the proposed Glentarken Wind Farm ('the Proposed Development'). The Applicant is proposing to submit a Section 36 application to construct and operate a 12-turbine wind farm (up to 180 m tip height), battery energy storage system (BESS) and associated infrastructure with a total generation capacity of greater than 50 MW. The location and layout of the Proposed Development are detailed on **Figure 8.2.1** and **Figure 8.2.2** with the red line defining the site and the Proposed Development boundary.

The assessment has been undertaken in line with best practice guidance[1] published by the Scottish Environment Protection Agency (SEPA) and wind farm construction good practice guidance.

The work has been undertaken by a team of Geotechnical Engineers and Geologists, with over 17 years' experience in undertaking peat assessments and specialising in the assessment of soils, geology and water for renewable power and infrastructure projects in Scotland.

1.2 Proposed Development

The Proposed Development is located within the Drummond Estate, approximately 2.8 km east of Lochearnhead, 15.5 km west of Crieff, 35 km north of Stirling, and 45 km west of Perth. The majority of the Proposed Development will be located within the Perth and Kinross local authority area. However, the access track to the western part of the Proposed Development falls within Stirling local authority area.

The Proposed Development is characterised by areas of heathland, moorland, and rough hill pasture. The southern edge of the Proposed Development has areas of arable land as well as forests and woodland. On the western border of the Proposed Development is an area of Ancient Woodland.

1.3 Objectives

This Peat Management Plan (PMP) outlines the overall approach of minimising disruption to peatland, and it aims to ensure that all further opportunities to minimise peat disturbance and extraction would be taken during detailed design and construction of the development.

The PMP has been developed to demonstrate that peat has been afforded significant consideration during the design and construction phase of the Proposed Development, should consent be granted. Specifically, it shows with the benefit of site-specific peat probing data, how areas of deeper peat have been avoided where technically feasible and considering other topographical, physical and environmental constraints, and how shallow deposits of peat and soils can be safeguarded and used to support the long-term habitat restoration and management proposals.

1.4 Role of the Peat Management Plan

The PMP is intended to be a working document to be used throughout the key stages of the design, construction, operation, decommissioning and re-instatement phases of the Proposed

1 Scottish Government, Scottish Natural Heritage, SEPA., (2017) Peatland Survey. Guidance on Developments on Peatland, on-line version only.

Development as part of an overall Construction Environmental Management Plan (CEMP). These stages are outlined as follows.

Stage 1: Environmental Impact Assessment (EIA)

This report forms the Outline PMP and is submitted as part of the EIA Report. From this initial report the PMP will be developed further into a Stage 2 Pre-Construction PMP.

Stage 2: Post Consent / Pre-Construction

The peat mass balance calculations may be further developed prior to the works commencing, following detailed ground investigation or further survey works required to inform detailed design, or that may be required under planning consent conditions.

Stage 3: Construction Stage

Actual peat volumes excavated during construction will be recorded against the overall predicted volumes. Within micrositing allowances, the alignment and design of tracks, turbine foundations, other site infrastructure and associated construction methods will be reviewed to avoid/minimise peat disturbance as much as possible considering the more detailed information available once construction commences. A regular review and update of the peat mass balance table will be undertaken by the appointed Principal Contractor and monitored by the Ecological Clerk of Works (ECoW) on-site and made available to regulators as required.

1.5 Legislation and Guidance

The PMP has been compiled in accordance with the following legislation and best practice guidance:

- National Planning Framework for Scotland 4 (NPF4) (Scottish Government, February 2023)[2];
- Scottish Government, Scottish Natural Heritage, SEPA (2017) 'Peat Survey Guidance; Developments on Peatland: Site Surveys'[1];
- SEPA Regulatory Position Statement - Developments on Peat (Scottish Environment Protection Agency, 2010)[3];
- SEPA Developments on Peat and Off-Site Uses of Waste Peat. (May 2017)[4]
- Good Practice During Wind Farm Construction, NatureScot (July 2024)[5];
- Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste (Scottish Renewables and SEPA, 2012) [6];
- The Waste Management Licensing (Scotland) Regulations 2011[7];
- Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Scottish Government, January 2017) [8]; and

2 Scottish Government (2023). https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2022/11/national-planning-framework-4-revised-draft/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4-revised-draft.pdf

3 Scottish Environment Protection Agency. 2010. Regulatory Position Statement – Developments on Peat

4 SEPA Guidance | WST-G-052 | version 1 | issued May 2017

5 NatureScot (July 2024), Good Practice During Wind Farm Construction. https://www.nature.scot/doc/good-practice-during-wind-farm-construction

6 Scottish Renewables, Scottish Environment Protection Agency. 2012. Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste

7 Scottish Government 2011, The Waste Management Licensing (Scotland) Regulations 2011. https://www.legislation.gov.uk/sdsi/2011/9780111012147/contents

8 Peat Landslide Hazard and Risk Assessments (Scottish Government, April 2017)

- Floating Roads on Peat - Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with reference to Wind Farm Developments in Scotland (Forestry Commission Scotland & Scottish Natural Heritage, 2010) [9].

Requirements of National Planning Policy 4

The intent of Policy 5 (Soils) of National Planning Policy 4 (NPF4)[2] is "*to protect carbon rich soils, restore peatlands and minimise the disturbance of soils from development*".

The Policy states [5(a)] that development proposals should only be supported if they are designed and constructed:

- *in accordance with the mitigation hierarchy by first avoiding and then minimising the amount of disturbance to soils on undeveloped land; and*
- *in a manner that protects soils from damage including from compaction and erosion, and that minimises soil sealing.*

Further [5(c)] confirms *that development proposals on peatland, carbon rich soils, and priority peatland will only be supported if they are:*

- *essential infrastructure and there is a specific locational need and no other suitable site;*
- *the generation of energy from renewable sources that optimises the contribution of the area to greenhouse gas emissions reductions targets;*
- *small-scale development directly linked to a rural business, farm or croft;*
- *supporting a fragile community in a rural or island area; or*
- *restoration of peatland habitats.*

And [5(d)] confirms *that where development on peatland, carbon-rich soils or priority peatland habitat is proposed, a detailed site-specific assessment will be required to identify:*

- *the baseline depth, habitat condition quality and stability of carbon rich soils;*
- *the likely effects of the development on peatland, including on soil disturbance; and*
- *the likely net effects of the development on climate emissions and loss of carbon.*

Policy 5 also confirms that the site specific (above) assessment [5(d)] "*should inform careful project design and ensure, in accordance with relevant guidance and the mitigation hierarchy, that adverse impacts are first avoided and then minimised through best practice. A peat management plan will be required to demonstrate that this approach has been followed, alongside other appropriate plans required for restoring and/ or enhancing the site into a functioning peatland system capable of achieving carbon sequestration*".

Mitigation Hierarchy

SEPA[3] has published guidance regarding the mitigation hierarchy for developments on peat which is summarised below:

- Prevention – avoiding generating excess peat during construction (e.g. by avoiding peat areas or by using construction methods that do not require excavation such as floating tracks);
- Re-use – use of peat produced on-site in restoration, provided that its use is fully justified and suitable;

9 Scottish Natural Heritage, Forestry Commission (August 2010). Floating Roads on Peat

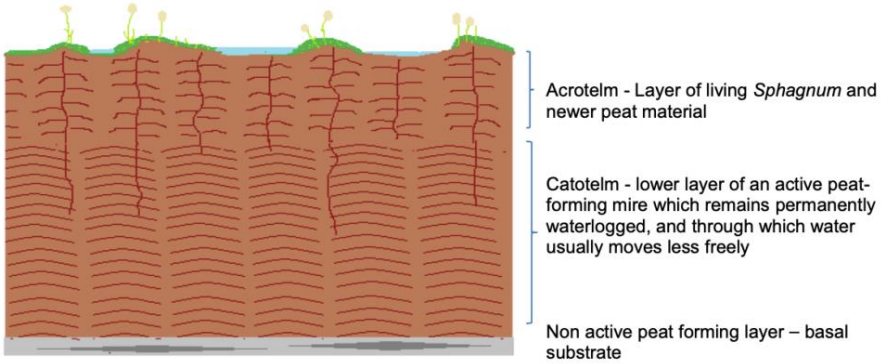
- Recycling / Recovery / Treatment – modify peat produced on-site for use as fuel, or as a compost / soil conditioner, or dewater peat to improve its mechanical properties in support to re-use; and
- Storage – applying the SEPA guidance, storage of peat up to a depth of 2 m is not classified as a waste, however clarification should be sought from the waste regulator prior to re-use and care must be taken to ensure that it does not cause environmental pollution.

Definition of Peat

Peat is defined as a material consisting of the partially decomposed remains of plant material and organic matter preserved over a period in a waterlogged environment resulting in anaerobic conditions and is of depths >0.5 m.

Peat can be classed as two principal types, the acrotelm layer and the catotelm layer as shown on **Plate 1-1**.

Plate 1-1: Drawing of two layered Structure of Active Bog Peatlands above Non-Active Peat[10]



The acrotelm layer is found in the upper layer of peat where conditions are relatively dry and comprises living vegetation and partially decomposed plant material. Hydraulic conductivity in this layer tends to be higher in relation to distance from the water table. The thickness of the acrotelm layer varies depending on topography such as steepness of slope, peat hags, and hummocks. In particular, the acrotelm layer can be affected during periods of drought or as a consequence of drainage. Fibrous in texture, the acrotelm layer has some tensile strength and is generally considered to be stable for storage and re-use.

The catotelm layer is found under the acrotelm layer and comprises decayed plant material and organisms and is denser and with a very low hydraulic conductivity. The catotelm layer sits below the water table resulting in permanent anaerobic conditions. The catotelm layer can be amorphous and have very low tensile strength making it less suitable for storage and re-use.

10 Bruneau, P.M.C & Johnson, S.M. 2014. Scotland's peatland - definitions & information resources. Scottish Natural Heritage Commissioned Report No 701.

2.0 Baseline Conditions

2.1 Geology and Soils

2.1.1 Artificial Ground

Based on the information available from the BGS Geoindex[11], no made ground deposits are noted across the Proposed Development.

2.1.2 Superficial Geology

Based on the available BGS online data[11] there is an absence of mapped superficial material across the main part of the Proposed Development. Glacial till is mapped to the north and south of the Proposed Development. Till and Morainic Deposits are mapped along the main access track up to BP4. Alluvium and River Terrace Deposits are mapped beyond the northern boundary of the Proposed Development near Glen Beich.

Figure 8.1.3 shows the superficial geology BGS mapping and the Proposed Development.

2.1.3 Bedrock Geology

Based on the available BGS online data[11] the Proposed Development is underlain by a number of different bedrock formations as detailed below:

- Pitlochry Schist Formation - Psammite and Semipelite; mapped along the southern parts of the main access up to and beyond BP3.
- Loch Tay Limestone Formation – Metalimestone; only mapped along the western boundary and not under any proposed infrastructure.
- Southern Highland Group – Semipelite; mapped under most of the western half of the Proposed Development.
- North Britain Siluro-Devonian Calc-Alkaline Dyke Suite – Felsite; mapped within the east of the Proposed Development.
- Dalradian Supergroup - Metagabbro and Metamicrogabbro; also mapped with the east of the Proposed Development.

Several igneous intrusions of the Central Scotland Late Carboniferous Tholeiitic Dyke Swarm - Quartz-Microgabbro and North Britain Siluro-Devonian Calc-Alkaline Dyke Suite – Microgranite are noted along the western boundary of the Proposed Development. Another larger intrusion of Dalradian Supergroup - Metagabbro and Metamicrogabbro is noted in the East from T6 to T3.

One major fault is inferred south to north along the western boundary of the Proposed Development.

Figure 8.1.4 shows the bedrock geology BGS mapping and the Proposed Development.

2.2 Peatland Classification

The Carbon and Peatland Map 2016[12] provided in **Figure 8.4 Peatland Classification** indicates that large parts of the Proposed Development are located within Class 1 peatland which are considered nationally important carbon-rich soils, deep peat and priority peatland habitats and areas likely to be of high conservation value.

11 BGS Online Viewer, available at [https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.133433804.376188765.1646739904-1030004651.1646739904]

12 NatureScot, Carbon and Peatland Map 2016, Available online at: map.environment.gov.scot/soil_maps/

The Class 1 peat is mapped within areas of flatter topography in the north of the Proposed Development within the area of Turbines T1, T2, T5, T11, T16 and T21 and also in the area of access track to the north of BP4 and adjacent to BP3.

Class 3 (habitats which may contain carbon rich soils and deep peat but are not considered to be of high conservation value) are present in the north-west of the Proposed Development within the area of the access track to BP3.

Some areas of Class 5 are present in the western area of the Proposed Development at BP3 and in the area of the access track adjacent to BP3. Class indicates no peatland habitat recorded but these areas may also include areas of bare soil and soils are carbon-rich and comprise deep peat.

The Carbon and Peatland Map[12] provides an indication of the likely presence of peatland and should not be used in development management decision making with on-site specific detailed peat surveying and assessment required to determine the presence of peat which is detailed in Section 3.0.

2.3 Hydrogeology

Information from Scotland's Environment Online Map Viewer[13] indicate that the bedrock units underlying the Proposed Development are generally impermeable and without groundwater except at shallow depth. Some groundwater flow may occur in shallow cracks and joints open to weathering with rare springs yielding low volumes of water.

2.4 Hydrology

The Proposed Development is located within the surface water catchment of the River Earn and Loch Earn (ID: 100251) specifically the west and northwest of the Proposed Development is located within the sub-catchment of the Beich Burn (ID: 6822) while the east and southeast is located within the sub-catchment of the Tarken Burn (ID: 6820).

2.5 Geomorphology

The Proposed Development is generally characterised by an upland plateau surrounded by a number of summits (greater than 600 m AOD). Access to the Proposed Development is taken from Ardveich via a steep track trending south to north within the eastern slopes of the valley of the Beich Burn which then reaches the flatter topography to the west of Coire an Damh and then orientates from west to east through undulating topography of the main area of Proposed Development infrastructure and then south east towards T8 above the northern slopes of Glen Tarken. The Proposed Development area features steep hillslopes and deep valleys with topographic lows and breaks in slope. The main area of Proposed Development in the north and east of the Proposed Development are generally topographically higher than in the south and west. The Proposed Development also contains frequent bedrock outcrops, wide ridges and incised gulleys, with flatter expanses existing in the slope breaks and topographic lows between the bedrock outcrops and hillslopes. Areas of peat have formed within these flatter expanses and localised hollows between bedrock outcrops.

Typical conditions observed throughout the Proposed Development are detailed below in the following photographs.

13 Scotland's Environment, Scotland's Environment Map, Available online at: https://map.environment.gov.scot/sewebmap/

Photograph 1: Overview of the Proposed Development looking west from National Grid Reference (NGR): 265899, 729427.

Photograph 2: Overview of the Proposed Development looking north from National Grid Reference (NGR): 265899, 729427.

Photograph 3: Overview of the Proposed Development looking east from National Grid Reference (NGR): 266415, 729610.

2.5.1 Blanket Bog

Peat deposits are common throughout the Proposed Development, with areas of blanket bog noted across in the lower lying areas of the upland plateau. There is an area of extensive blanket bog in west of the Proposed Development near T1 with peat depths of over 2 m recorded. Blanket bog was also noted east of the Proposed Development to the east of T4 and south of T2. There are localised hollows of blanket bog across the Proposed Development which occur at breaks of slopes. Detailed mapping of habitats and information on peatland condition is provided in **EIAR Volume 4 Technical Appendix 7.1** National Vegetation Classification & Habitats Survey Report.

No areas of instability were noted in relation to the peat deposits recorded across the Proposed Development.

Photograph 4: Overview of the blanket bog looking west from National Grid Reference (NGR): 265601, 7296825.

2.5.2 Peat Erosional Features

There are extensive areas of peat hagging across the Proposed Development. Peat haggs are predominantly located within the east on the flanks of Meall Daimh and Creag Ruadh with haggs of up to 2 m in height. An area of extensive hagging was also noted within the west immediately south of Temporary Compound 1 as shown on **Figure 8.2.2**.

Based on site observations, hagging across the Proposed Development is likely to be exacerbated by wind erosion due to the topographically exposed nature of this area and higher elevations. In addition, there is evidence of hydrologically influenced gully erosion due to localised networks of drainage across the peatland.

Further information on peatland condition is provided in **EIAR Volume 4 Technical Appendix 7.1 National Vegetation Classification & Habitats Survey Report.**

No areas of instability were noted in relation to any erosional features across the Proposed Development.

Photograph 5: Overview of the peat hagging looking east from National Grid Reference (NGR): 266430, 729650.

2.5.3 Drainage

The Proposed Development features extensive drainage that generally drain the upland plateau to the south. Along the main access track the drainage trends from east down slope to the west. The drainage across the Proposed Development is a combination of natural and artificial drainage with some artificial ditches up to 1 m deep and 0.8 m wide.

No areas of instability were noted in relation to artificial drainage and cuttings across the Proposed Development.

3.0 Fieldwork

3.1 Peat Surveys

Peat surveys were carried out in accordance with best practice guidance for developments on peatland[14,1]. Phase 1 peat probing was conducted on a 100 m grid to allow for initial assessment of the Proposed Development and Phase 2 probing saw detailed higher resolution probing undertaken across the Proposed Development focussing on access tracks, turbine locations and other site infrastructure. as well as potential micrositing to avoid deep peat where possible.

Where surveys were undertaken by SLR, the thickness of the peat was assessed using a graduated peat probe, approximately 6 mm diameter and capable of probing depths of up to 10 m. This was pushed vertically into the peat to refusal and the depth recorded, together with a unique location number and the co-ordinates from a handheld Global Positioning System instrument (GPS). The accuracy of the GPS was quoted as ±2 m, which was considered sufficiently accurate for this survey. All data was uploaded into a GIS database for incorporation into various drawings and analysis assessments.

Where the peat probing met refusal on a hard substrate, the 'feel' of the refusal can provide an insight into the nature of the substrate. The following criteria were used to assess material:

- Solid and abrupt refusal – rock;
- Solid but less abrupt refusal with grinding or crunching sound – sand or gravel or weathered rock;
- Rapid and firm refusal – clay; or
- Gradual refusal – dense peat or soft clay.

The relative stiffness of the peat was also assessed from the resistance to penetration of the probe and from the effort required to extract the probes (retrieval of the probe was often impossible for one person). In all instances refusal was met on obstructions allowing identification of subsurface geology.

3.2 Peat Depth

Peat is generally defined as a soil with a surface organic layer in excess of 0.5 m[14]. Where the probing recorded less than 0.5 m thick, it is considered to be a peaty soil (or organo-mineral soil). Soils with a peaty organic horizon over mineral soil are often referred to as 'peaty soils'. These organo-mineral soils are extensive across the UK uplands, but do not meet recognised definitions of peat as they are either shallower than true peat or have a lower carbon density.

The peat was found to vary across the Proposed Development in terms of thickness and coverage. Deeper peat was generally encountered in flatter, lower gradient areas of the Proposed Development.

The maximum depth of recorded peat was 5 mbgl, recorded at five locations across the Proposed Development. The average thickness of peat recorded across the Proposed Development was 0.6 m. Probing indicated that 58% of peat probe locations encountered <0.5 m of peat. 30% of probe locations identified peat between 0.5 to 1.5 m, and the remaining 12% of probe locations encountered peat depths >1.5 m.

14 Scottish Renewables & SEPA (2012) 'Developments on Peatland Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste'.

A total of 7,918 peat probes were undertaken across all survey phases, with the results summarised in Table A and detailed within the peat depth interpolation figures provided in **Figure 8.2.3** and **Figure 8.2.4**.

Table A: Peat Probing Results

Peat Thickness (m)	No. of Probes	Percentage (of total probes undertaken on-site)
0 (no peat or soil)	534	6.7
0.01 – 0.49 (peaty soil)	3959	50.0
0.50 – 0.99	1812	22.9
1.00 – 1.49	667	8.4
1.50 – 1.99	483	6.1
2.00 – 2.49	195	2.5
2.50 – 2.99	151	1.9
3.00 – 3.49	47	0.6
3.50 – 3.99	40	0.5
> 4.0	30	0.4

3.3 Peat Condition

Peat is described using BS5930[15] and the Von Post classification[16]. Six peat cores and samples were collected by SLR during Phase 2, using a peat auger and used to inform interpretations of the underlying physical peat condition and underlying substrate. Peat samples were undertaken to depths of between 0.6 and 1.9 mbgl.

Table B: Peat Coring Results

Location	Average Peat Depth (m)	Von Post Degree of Decomposition	Description
PA1: T10 Turbine	1.67	H3, B2 H5, B2	GL – 2.20 Light brown fibrous PEAT. 2.20 – 2.50 Brown pseudo-fibrous PEAT.
PA2: T10 Hardstanding	1.67	H2, B3 H5, B2 H7, B2.	GL – 0.60 Brown fibrous PEAT. 0.60 – 2.50 Brown pseudo-fibrous PEAT. 2.50 – 3.50 Dark brown pseudo-fibrous PEAT.
PA3: T21 Hardstanding	2.87	H2, B2 H5, B2	GL – 2.50 Brown fibrous PEAT. 2.50 – 3.00 Brown pseudo-fibrous PEAT.
PA4: T21 Turbine	2.87	H3, B3	GL – 2.28 Brown fibrous PEAT. 2.28 – 2.30 Soft light brown SILT.
PA5: T6 Turbine	0.28	H3, B3	GL – 1.50 Brown fibrous PEAT

15 BS 5930:2015+A1:2020, Code of practice for ground investigations

16 Von Post, L. and Grunland, E., (1926), 'Sodra Sveriges torvillganger 1' Sverges Geol. Unders. Avh., C335, 1-127.

Location	Average Peat Depth (m)	Von Post Degree of Decomposition	Description
PA6: Construction Compound 1	2.00	H3, B2 H5, B3	GL – 0.80 Brown fibrous PEAT. 0.80 – 1.40 Dark brown pseudo-fibrous PEAT.

Peat core logs and photographs are presented within **Annex B**.

4.0 Peat Management and Mitigation

The Proposed Development design took account of a number of environmental and technical constraints. The design sought to avoid areas of deep peat >1 m where technically feasible, whilst taking into account other environmental and technical factors such as ecology, ornithology, archaeology, hydrology, topography and existing infrastructure.

The Proposed Development design evolution has largely avoided the more extensive areas of peat >1 m as shown on **Figure 8.2.4**. The design has evolved through a combination of initial low resolution probing on a 100 m grid to develop initial designs and then multiple phases of more detailed probing to allow refinements to the design and avoid further areas of extensive deeper >1 m and peatland in near natural condition. The detailed peat probing has highlighted the presence of more localised deep peat deposits >1 m which have typically formed in localised topographic hollows and lows present in areas of proposed infrastructure within the Proposed Development due to other constraints as detailed in **Chapter 3: Evolution of Design and Alternatives (EIAR Volume 4)**.

These areas of the Proposed Development which are on areas of deep peat >1 m will require further mitigation, and it is acknowledged that the main mitigation will be micro-siting of turbines and infrastructure, where possible, following detailed ground investigations to minimise excavation of peat during the construction phase.

The initial construction phase for the Proposed Development will include soil and peat stripping and excavation activities associated with construction of the Proposed Development. There are four main types of impact on peat which can occur during construction. These are:

- Loss of structural integrity and peat strength, due to stripping off or damaging the surface vegetation turf, excavation, handling and transporting peat (particularly wet, subsurface peat);
- Erosion and gullying, caused by exposure and desiccation of bare peat surfaces primarily caused by water erosion, due to surface runoff after rainfall;
- Contamination, caused by leaks, spillages or inappropriate laydown of materials; and
- Peat slide, caused by laying wet peat on top of wet peat, laying other heavy materials (including excavated mineral soil or other construction materials) on top of wet peat or by inappropriate stockpiling, such as attempting to create stockpiles of peat that are too high, without bunding, engineering or geotechnical support.

A range of guidance and control measures are described below which are designed to prevent these impacts from occurring.

4.1 Excavation

Excavated peat should be excavated as turves, including the acrotelm (surface vegetation) and a layer of adjoining catotelm (more humified peat) typically up to 0.5 m thick in total, or as blocks of catotelm; the acrotelm should not be separated from its underlying peat;

- the turves should be as large as possible to minimise desiccation during storage, though the practicalities of handling should be considered;
- the mixing of excavated peat with substrate materials to be avoided at all times; and
- consider timing of excavation activities to avoid very wet weather and avoid multiple handling to minimise the likelihood of excavated peat losing structural integrity.

If possible, extract intact full depth acrotelm layers from the top surface of the peat deposit. This technique will maintain connectivity between the surface vegetation and the partially decomposed upper layers of the catotelm.

4.2 Re-use

It is anticipated that the volume of material excavated for the construction of the Proposed Development can be entirely reused for a variety of re-use, re-instatement and restoration purposes, including around constructed structures, restoration of temporary hardstanding areas, borrow pits and road verges. There is also potential for excavated peat to be used for habitat and peat restoration on or locally to the Proposed Development. This potential re-use option has not been quantified but will provide an additional method to retain and beneficially re-use material. Further details are provided in Section 6.0.

4.3 Temporary Peat Storage

The following good practice applies to the storage of peaty soils/peat:

- stripped materials should be carefully separated to keep peat and other type of soils apart;
- to minimise handling and haulage distances, excavated material should be stored local to the site of excavation or end point of restoration;
- peat turves should be stored in wet conditions or irrigated in order to prevent desiccation (once dried, peat will not rewet);
- stockpiling of peat should be in large volumes to minimise exposure to wind and sun (and desiccation), but with due consideration for slope stability, but should not exceed 1 m in height to maintain stability of stockpile;
- stockpiles should be isolated from watercourses or drains with appropriate bunding to minimise pollution risks;
- to be stored a minimum of 10 m from any watercourse.
- stores of non-turf (catotelm) peat should be bladed off to reduce the surface area and desiccation of the stored peat; and
- peat storage areas should be monitored during periods of very wet weather, or during snowmelt, to identify early signs of peat instability.

Any peaty soils/peat to be removed during construction would require a temporary storage area near to the construction works/area of re-use. Where peat cannot be transferred immediately to an appropriate restoration area, short term storage will be required. In this case, the following good practice applies:

- peat would be stored around the excavation perimeter at sufficient distance from the cut face to prevent overburden induced failure;
- local gullies, diffuse drainage lines (or very wet ground) and locally steep slopes should be avoided for peat storage;
- drying of stored peat should be avoided by irrigation or by seeding (although this is unlikely to be significant for peat materials stored less than 2 months);
- peat generated from permanent excavations should be transported directly to its allocated restoration location, to minimise the volume being stockpiled with the possibility of drying out;
- stores of catotelm peat should be bladed off to reduce their surface area and minimise desiccation;
- where transport cannot be undertaken immediately, stored peat should be irrigated to limit drying and stored on a geotextile mat to promote stability; and

- monitoring of large areas of peat storage during wet weather or snowmelt should be undertaken to identify any early signs of peat instability.

4.4 Transport

The following good practice applies to transport:

- movement of turves should be kept to a minimum once excavated, and therefore it is preferable to transport peat planned for translocation and reinstatement to its destination at the time of excavation; and
- if heavy goods vehicles (HGVs)/dump trucks that are used for transporting non-peat material are also to be used for peat materials, measures should be taken to minimise cross-contamination of peat soils with other materials.

4.5 Handling

Following refinement of the excavated peat volumes, a detailed storage and handling plan should be prepared forming part of the detailed CEMP, including:

- best estimate excavation volume at each infrastructure location (including peat volumes split into area/volume of ‘acrotelm’ or ‘turf’, and volume of catotelm) which would be achieved by undertaking additional probing in line with current guidance;
- volume to be stored locally and volume to be transferred directly on excavation to restoration areas elsewhere (e.g. peat storage areas) in order to minimise handling;
- location and size of storage area relative to turbine foundations and natural peat morphology / drainage features; and
- irrigation requirements and methods to minimise desiccation of excavated peat during short term storage.

These parameters are best determined post-consent, informed by detailed ground investigation within the micro-siting areas for each element of infrastructure.

4.6 Restoration

Where applicable, restoration should be undertaken in accordance with **Technical Appendix 7.7: Outline Biodiversity Enhancement Management Plan (EIAR Volume 4).**

During restoration, the following best practice should be followed:

- carefully evaluate potential restoration sites for their suitability, and agree that these sites are appropriate with the ECoW, landowners and relevant consultees;
- undertake restoration and revegetation or reseeding work as soon as practically possible;
- where required, consider exclusion of livestock from areas of the Proposed Development undergoing restoration, to minimise impacts on revegetation; and
- as far as reasonably practicable, restoration should be carried out concurrently with construction rather than at its conclusion.

4.7 Access Tracks

There is guidance[5,9] available to support access track design in peatlands. Guidance is generally focused on floating tracks and excavated tracks and is summarised below.

Based on the avoidance of the areas of more extensive deep peat >1m with cut tracks located on peat <1 m where possible and the adoption of sections of floating track on areas of peat

>1 m then the use of excavated and floated tracks is proposed. Floating tracks would be adopted on suitable length sections of access track where peat depths are >1 m, where detailed ground investigation confirms suitability.

Excavated tracks require complete excavation of soil/peat to a competent substrate. Excavated tracks will generally be undertaken where peat depths are less than 1 m. This peat/soil would require storage ahead of re-use elsewhere within Proposed Development. Good practice guidance relates mainly to drainage in association with excavated tracks:

- trackside ditches should capture surface water (within the acrotelm) before it reaches the road;
- interceptor drains should be shallow and flat bottomed (and preferably entirely within the acrotelm to limit drawdown of the water table);
- any stripped peat turves should be placed back in the invert and sides of the ditch to assist regeneration and prevent erosion to the peat and wash out that could occur; and
- culverts and cross drains should be installed under excavated tracks to maintain subsurface drainage pathways (such as natural soil pipes or flushes). Discharge from constructed drainage should allow for as much diffuse dispersion of clean (silt free) water as possible while minimising disturbance to existing peatland as far as possible. Silt mitigation measures will be incorporated into all constructed drainage as per the requirements of the CEMP.

Although excavation is normally undertaken in peat of minor thickness (< 1.0 m), there is a possibility of minor slippage from the cut face of the peat mass. Accordingly:

- free faces should be inspected for evidence of instability (cracking, bulging, excessive discharge of water or sudden cessation in discharge); and
- where significant depths of peat are to be stored adjacent to an excavation, stability analysis should be conducted to determine Factor of Safety (FoS) and an acceptable FoS adopted for loaded areas.

Regular routine monitoring should be scheduled post-construction to ensure that hydrological pathways and track integrity have been suitably maintained.

4.8 Monitoring and Inspection

There would be frequent, routine and regular inspections of peat in all stockpiles and temporary storage areas. Inspections would assess in situ peat physical conditions, integrity of containment and temporary drainage conditions, and they would seek to confirm that stockpile design and management was adequate to prevent erosion and peat slide. These inspections would take place weekly during stockpile creation and storage.

Should any problems be observed during regular visual inspections of peat stockpiles, this would invoke implementation of an appropriate corrective action which would be recorded and monitored for effectiveness. Types of corrective actions would include, but would not necessarily be limited to; modification of temporary drainage, additional or modified bunding, incorporating of sediment fencing if required, light re-grading to correct any areas of surface erosion, etc.

Regular, frequent inspections of peat conditions during construction and restoration phases of work would be carried out by the Engineer and ECoW as follows:

- peat surface, peat profile and peat consistency conditions would be carried out as part of ground investigations prior to the start of construction. This information would provide detailed information on the baseline conditions for each part of the infrastructure footprint;

- restored peat conditions would be inspected immediately after restoration to ensure that the methods detailed in the PMP had been correctly implemented and to inform any corrective actions should they be required;
- further monitoring to be undertaken where required to ensure restoration works have been correctly implemented; and
- the physical condition of peat would be retained as carefully as possible both at the peat storage and the peat restoration stages. This is particularly important for vegetation establishment.

5.0 Peat Balance Assessment

The volumetric analysis of excavated peat volumes incorporates the mean peat depths recorded across each infrastructure location, based on the interpolation of the survey data. Average peat depths have been assessed based on relevant interpolated data points using the GIS package ArcGIS.

The estimation of peat extraction and re-use volumes relies on a series of design assumptions that may vary on a small scale according to discrete changes in ground conditions. Therefore, it should be highlighted that the peat volume estimates stated in this report are a preliminary indication only. Volumetric calculations should be re-evaluated if more detailed intrusive site investigation data becomes available. Design assumptions with regard to the likely access track construction methods have also been taken. SLR does not warrant these assumptions as a final engineering design for the Proposed Development. The design of the detailed site layout should be confirmed with a comprehensive site investigation.

Table C provides an estimate of peat and peaty soil volumes to be excavated and re-used during the construction of the Proposed Development. The peat and peaty soil excavation and re-use volumes are detailed for each infrastructure element in **Annex A**.

5.1 Excavated Volumes

Peat excavation volumes are detailed in Table C and **Annex A** and based on the following assumptions:

- Interpolation of peat depth was undertaken using the Inverse Distance Weighting (IDW) interpolation method.
- An estimated acrotelm depth of 0.5 m across all infrastructure based on peat depth survey results.
- The acrotelm volumes have been calculated based on the average peat depth across each item of infrastructure and linear infrastructure based on peat depth survey results.
- An assumption that the peat probe depths are representative of the actual depth of peat (validated by the peat coring).

The excavated volumes will comprise primarily acrotelmic peat and soils.

5.2 Reuse Volumes

The volume of peat to be reused around the Proposed Development is detailed in Table C and **Annex A** and based on the following assumptions:

- In appropriate locations around the infrastructure perimeter such as track verges, the edges of permanent structures a 3 m wide strip either side of the track at a thickness of about 1 m (turves and acrotelmic peat).
- In appropriate locations around the perimeter of turbine and hardstandings with a 1 m wide strip and with an average peat thickness of 1 m.
- Reinstatement of temporary compound areas and the Batching Plant to ensure integration with the adjacent habitat areas where possible which comprise blanket bog.
- Borrow pits to reuse peat with an average peat thickness of 0.5 m to ensure integration with the adjacent habitat areas where possible.

5.3 Net Peat Balance

Table C provides an estimate of peat volumes to be excavated and reused during the construction of the infrastructure.

Table C: Peat Balance Assessment

Infrastructure	Volume of Peat Excavated (m^3)	Volume of Peat Reused and Reinstated (m^3)
Access Track - Cut	34,958	70,860
Access Track - Cut - 5% Percent uplift for localised widening	1,746	-
Access Track - Floating	0	16,758
Access Track - Upgraded	642	5,832
Permanent Hardstandings	33,640	2,880
Temporary Hardstandings	38,320	38,320
Substation & Battery Storage	25,364	270
Substation Temporary Compound	10,430	10,430
Main Construction Compound	20,029	20,029
Access Track Construction Compound	569	569
Laydown Areas	19,027	19,027
Batching Plant	9,984	9,984
Borrow Pits	22,979	34,615
Total	212,778	233,115

The total volume of peat predicted to be excavated of 217,686 m^3, does not exceed the intended total peat reuse volume of 229,573 m^3, therefore no excess peat is required to be disposed off-site as a result of the Proposed Development.

6.0 Waste Classification

This section of the Stage 1 PMP includes the method for dealing with peat which could potentially be classified as waste (only if the above volumes estimate significant quantities of catotelm peat, which cannot be re-used).

Table D outlines where those materials that are likely to be generated on-site, fall within the Waste Management Licensing (Scotland) Regulations 2011.

Based on the results presented in this document, it has been concluded that all of the materials to be excavated on-site would fall within the non-waste classification and would be re-used on-site. Based on a detailed probing exercise and visual inspection of the peat, it is predominantly fibrous peat which would be suitable to be re-used on-site. Typically, the peat was found to be fibrous and fairly dry within the top metre before becoming slightly more pseudo-fibrous with depth.

Table D: Excavated Materials – Assessment of Suitability

Excavated Material	Indicative Volume % of total excavated soils	Is there a suitable use for material	Is the Material required for use on Site	Material Classified as Waste	Re-use Potential	Re-use on Site
Turf and Acrotelmic Peat	70	Yes	Yes	Not classified as waste	Yes	Will be re-used in reinstatement of access track verges, cut and fill verges, road verges, side slopes and check drains. Peripheral embankments of turbine bases, crane hardstandings and reinstatement of borrow pits.
Catotelmic peat	30	Yes	Yes	Not classified as waste	Yes	Will be re-used in reinstatement of floated access track verges, cut and fill verges, road verges, side slopes and check drains. Peripheral embankments of turbine bases, crane hardstandings and reinstatement of borrow pits.
Amorphous Catotelm Peat (amorphous material unable to stand unsupported when stockpiled >1m)	0	Potentially	Potentially*	Potentially if not required as justifiable restoration of habitat management works	Limited	If peat does not require treatment prior to re-use it can be used on-site providing adequate justification and method statements are provided and approved by SEPA. If it is unsuitable for use without treatment then it may be regarded as a waste. However, every attempt to avoid this type of peat has been incorporated into the design.

*Such uses for this type of material are limited, however there may be justification for use in the base of peat restoration areas to maintain waterlogged conditions and prevent desiccation of restored area and in some habitat, management works such as gully or ditch blocking where saturated peat is required to mimic mire type habitats and encourage establishment of sphagnum.

7.0 Conclusion

This Stage 1 PMP presents a pre-construction assessment of the expected peat extraction and reuse volumes associated with the works phase of the construction of the main wind farm development.

Through a process of continued design refinement (focused on minimising peat excavation volumes) and adoption of best practice working method, the Proposed Development is expected to achieve an overall peat balance, i.e. the volume (and character) of excavated peat compliments requirements for re-use and reinstatement. Thus, all excavated material will be required for reuse as part of the works and no surplus peat is anticipated.

The Proposed Development is located within an area of peat which is predominantly moderately decomposed with a very distinct plant structure that is considered suitable for re-use during reinstatement work, e.g. dressing of infrastructure edges, temporary infrastructure restoration and borrow pit restoration. Good practice standards, which will be outlined in the updated CEMP, relating to excavation, handling and storage of peat, shall ensure against any compromise to the structural integrity of the peat and its associated suitability for reuse.

Avoidance of localised pockets of deep peat that would otherwise require excavation will continue to be a key design refinement objective.

Figures

Technical Appendix 8.2: Peat Management Plan

Glentarken Wind Farm

SSE Renewables

SLR Project No.: 405.065137.00001

Annex A Excavated Materials Calculations

Technical Appendix 8.2: Peat Management Plan

Glentarken Wind Farm

SSE Renewables

SLR Project No.: 405.065137.00001

Infrastructure on Peat	Length (m)	Width (m)	Area (m^2)	Average Depth of Peat (m)	Number	Total Excavated Volume Acrotelm Peat (m^3)	Total Excavated Volume Catotelm Peat (m^3)	Total Excavated Volume Peat (m^3)	Length (m)	Width (m)	Area (m^2)	Average Thickness of Peat (m)	Number	Total Re-use Volume Acrotelm Peat (m^3)	Total Re-use Volume Catotelm Peat (m^3)	Total Re-use Volume of Peat (m^3)	Notes
Access Track - Cut	11810	8	94480	0.37	1	34958		34958	11810	3	35430	1.00	2	42516	28344	70860	
Access Track - Cut - 5% Percent uplift for localised widening	590	8	4720	0.37	1	1746		1746									
Access Track - Floating	2793	6	16758	1.69	0	0	0	0	2793	3	8379	1.00	2	10893	5865	16758	No excavation required
Access Track - Upgraded	972	3	2916	0.22	1	642		642	972	3	2916	1.00	2	3499	2333	5832	
Permanent turbine and hardstanding T01E	-	-	2890	0.96	1	1445	1329	2774	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T02E	-	-	2890	1.17	1	1445	1936	3381	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T03E	-	-	2890	0.56	1	1445	173	1618	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T04E	-	-	2890	1.32	1	1445	2370	3815	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T05E	-	-	2890	0.54	1	1445	116	1561	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T06E	-	-	2890	0.28	1	809		809	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T08E	-	-	2890	0.31	1	896		896	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T10E	-	-	2890	1.67	1	1445	3381	4826	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T11E	-	-	2890	0.34	1	983		983	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T16E	-	-	2890	0.87	1	1445	1069	2514	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T20	-	-	2890	0.75	1	1445	723	2168	240	1	240	1.00	1	144	96	240	Includes turbine base
Permanent turbine and hardstanding T21	-	-	2890	2.87	1	1445	6849	8294	240	1	240	1.00	1	144	96	240	Includes turbine base
Temporary hardstanding T01E	-	-	3558	1.59	1	1779	3878	5657	-	-	3558	1.59	1	3394	2263	5657	Fully reinstated
Temporary hardstanding T02E	-	-	3558	1.40	1	1779	3202	4981	-	-	3558	1.40	1	2989	1992	4981	Fully reinstated
Temporary hardstanding T03E	-	-	3558	0.63	1	1779	463	2242	-	-	3558	0.63	1	1345	897	2242	Fully reinstated
Temporary hardstanding T04E	-	-	3558	0.72	1	1779	783	2562	-	-	3558	0.72	1	1537	1025	2562	Fully reinstated
Temporary hardstanding T05E	-	-	3558	0.54	1	1779	142	1921	-	-	3558	0.54	1	1153	769	1921	Fully reinstated
Temporary hardstanding T06E	-	-	3558	0.74	1	1779	854	2633	-	-	3558	0.74	1	1580	1053	2633	Fully reinstated
Temporary hardstanding T08E	-	-	3558	0.55	1	1779	178	1957	-	-	3558	0.55	1	1174	783	1957	Fully reinstated
Temporary hardstanding T10E	-	-	3558	0.85	1	1779	1245	3024	-	-	3558	0.85	1	1815	1210	3024	Fully reinstated
Temporary hardstanding T11E	-	-	3558	0.43	1	1530		1530	-	-	3558	0.43	1	918	612	1530	Fully reinstated
Temporary hardstanding T16E	-	-	3558	0.97	1	1779	1672	3451	-	-	3558	0.97	1	2071	1381	3451	Fully reinstated
Temporary hardstanding T20	-	-	3558	0.77	1	1779	961	2740	-	-	3558	0.77	1	1644	1096	2740	Fully reinstated
Temporary hardstanding T21	-	-	3558	1.58	1	1779	3843	5622	-	-	3558	1.58	1	3373	2249	5622	Fully reinstated
Substation & Battery Storage	-	-	19250	1.32	1	9625	15739	25364	270	1	270	1.00	1	162	108	270	
Substation Temporary Compound	-	-	12000	0.87	1	6000	4430	10430	-	-	12000	0.87	1	6258	4172	10430	Fully reinstated
Main Construction Compound	-	-	10000	2.00	1	5000	15029	20029	-	-	10000	2.00	1	12017	8011	20029	Fully reinstated
Access Track Construction Compound	-	-	2500	0.23	1	569		569	-	-	2500	0.23	1	341	228	569	Fully reinstated
Laydown Areas	-	-	15000	1.27	1	7500	11527	19027	-	-	15000	1.27	1	11416	7611	19027	Fully reinstated
Batching Plant	-	-	10000	1.00	1	5000	4984	9984	-	-	10000	1.00	1	5990	3994	9984	Fully reinstated
Borrow Pit BP1	-	-	9080	0.47	1	4268		4268	-	-	9080	0.50	1	2724	1816	4540	
Borrow Pit BP2	-	-	28125	0.39	1	10969		10969	-	-	28125	0.50	1	8438	5625	14063	
Borrow Pit BP3	-	-	8240	0.31	1	2554		2554	-	-	8240	0.50	1	2472	1648	4120	
Borrow Pit BP4	-	-	6905	0.22	1	1519		1519	-	-	6905	0.50	1	2072	1381	3453	
Borrow Pit BP5	-	-	7100	0.20	1	1420		1420	-	-	7100	0.50	1	2130	1420	3550	
Borrow Pit BP6	-	-	9780	0.23	1	2249		2249	-	-	9780	0.50	1	2934	1956	4890	
Totals						**130810**	**86876**	**217686**						**138582**	**90991**	**229573**	

Total Excavated Volume Acrotelm Peat (m^3)	**130810**
Total Excavated Volume Catotelm Peat (m^3)	**86876**
Total Excavated Volume Peat (m^3)	**217686**
Total Re-use Volume Acrotelm Peat (m^3)	**138582**
Total Re-use Volume Catotelm Peat (m^3)	**90991**
Total Re-use Volume of Peat (m^3)	**229573**
Net Balance (m^3)	**-11887**

Annex B Peat Coring Data

Technical Appendix 8.2: Peat Management Plan

Glentarken Wind Farm

SSE Renewables

SLR Project No.: 405.065137.00001

Peat Core Log

Hole No.
PA1
Sheet 1 of 1

Project: Glentarken Wind Farm	Client: SSE Renewables Development Ltd		Dates: 05-09-2024
Project No: 405.065137.00001	Logger: FS	Approved By: AH	Coordinates: E: 267581.00 N: 728578.00
Location: Proposed Glentarken Wind Farm, St Fillans, Perth and Kinross, Scotland, United Kingdom.	Hole Type: HA	Level:	Vertical Scale: 1:20

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 0.50	C	0.00 - 0.50	Recovery = 100%				Light brown fibrous PEAT (H3,B2).
	0.50 - 1.00	C	0.50 - 1.00	Recovery = 100%				
	1.00 - 1.50	C	1.00 - 1.50	Recovery = 100%				
	1.50 - 2.00	C	1.50 - 2.00	Recovery = 100%				
	2.00 - 2.50	C	2.00 - 2.50	Recovery = 100%	2.20			Brown pseudo-fibrous PEAT (H5,B2).
					2.50			Peat Core Complete at 2.50m

Remarks:

Peat Core Log

Hole No. **PA2** Sheet 1 of 1

Project: Glentarken Wind Farm	Client: SSE Renewables Development Ltd	Dates: 05-09-2024
Project No: 405.065137.00001	Logger: FS / Approved By: AH	Coordinates: E: 267616.00 N: 728614.00
Location: Proposed Glentarken Wind Farm, St Fillans, Perth and Kinross, Scotland, United Kingdom.	Hole Type: HA / Level:	Vertical Scale: 1:20

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 0.50	C	0.00 - 0.50	Recovery = 55%	0.60			Brown fibrous PEAT (H2,B3).
	0.50 - 1.00	C	0.50 - 1.00	Recovery = 100%				Brown pseudo-fibrous PEAT (H5,B2).
	1.00 - 1.50	C	1.00 - 1.50	Recovery = 100%				
	1.50 - 2.00	C	1.50 - 2.00	Recovery = 100%				
	2.00 - 2.50	C	2.00 - 2.50	Recovery = 100%	2.50			Dark brown pseudo-fibrous PEAT (H7/B2).
	2.50 - 3.00	C	2.50 - 3.00	Recovery = 100%				
	3.00 - 3.50	C	3.00 - 3.50	Recovery = 100%	3.50			Peat Core Complete at 3.50m

Remarks:

Peat Core Log

Hole No.
PA3
Sheet 1 of 1

Project: Glentarken Wind Farm	Client: SSE Renewables Development Ltd		Dates: 05-09-2024
Project No: 405.065137.00001	Logger: FS	Approved By: AH	Coordinates: E: 266691.00 N: 728951.00
Location: Proposed Glentarken Wind Farm, St Fillans, Perth and Kinross, Scotland, United Kingdom.	Hole Type: HA	Level:	Vertical Scale: 1:20

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description	
	0.00 - 0.50	C	0.00 - 0.50	Recovery = 100%				Brown fibrous PEAT (H2,B2).	
	0.50 - 1.00	C	0.50 - 1.00	Recovery = 100%					1
	1.00 - 1.50	C	1.00 - 1.50	Recovery = 100%					
	1.50 - 2.00	C	1.50 - 2.00	Recovery = 100%					2
	2.00 - 2.50	C	2.00 - 2.50	Recovery = 100%	2.50			Brown pseudo-fibrous PEAT (H5,B2).	
	2.50 - 3.00	C	2.50 - 3.00	Recovery = 100%	3.00			Peat Core Complete at 3.00m	3

Remarks:

Peat Core Log

Hole No.
PA4
Sheet 1 of 1

Project: Glentarken Wind Farm	Client: SSE Renewables Development Ltd		Dates: 05-09-2024
Project No: 405.065137.00001	Logger: FS	Approved By: AH	Coordinates: E: 266664.00 N: 728991.00
Location: Proposed Glentarken Wind Farm, St Fillans, Perth and Kinross, Scotland, United Kingdom.	Hole Type: HA	Level:	Vertical Scale: 1:20

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 0.50	C	0.00 - 0.50	Recovery = 90%				Brown fibrous PEAT (H3,B3).
	0.50 - 1.00	C	0.50 - 1.00	Recovery = 100%				
	1.00 - 1.50	C	1.00 - 1.50	Recovery = 100%				
	1.50 - 2.00	C	1.50 - 2.00	Recovery = 100%				
	2.00 - 2.30	C	2.00 - 2.30	Recovery = 100%	2.28 2.30			Soft light brown SILT. Peat Core Complete at 2.30m

Remarks:

Peat Core Log

Hole No.
PA5
Sheet 1 of 1

Project: Glentarken Wind Farm	Client: SSE Renewables Development Ltd		Dates: 05-09-2024
Project No: 405.065137.00001	Logger: FS	Approved By: AH	Coordinates: E: 266174.00 N: 728779.00
Location: Proposed Glentarken Wind Farm, St Fillans, Perth and Kinross, Scotland, United Kingdom.	Hole Type: HA	Level:	Vertical Scale: 1:20

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 0.50	C	0.00 - 0.50	Recovery = 100%				Brown fibrous PEAT (H3,B3).
	0.50 - 1.00	C	0.50 - 1.00	Recovery = 100%				
	1.00 - 1.50	C	1.00 - 1.50	Recovery = 100%	1.50			Peat Core Complete at 1.50m

Remarks:

Peat Core Log

Hole No.
PA6
Sheet 1 of 1

Project: Glentarken Wind Farm	Client: SSE Renewables Development Ltd	Dates: 05-09-2024
Project No: 405.065137.00001	Logger: FS / Approved By: AH	Coordinates: E: 265221.00 N: 729628.00
Location: Proposed Glentarken Wind Farm, St Fillans, Perth and Kinross, Scotland, United Kingdom.	Hole Type: HA / Level:	Vertical Scale: 1:20

Water	Depth (m)	Sample Type	Depth	Recovery (%)	Depth (m) / Discontinuity Detail	Level (mAOD)	Legend	Stratum Description
	0.00 - 0.50	C	0.00 - 0.50	Recovery = 100%	0.80			Brown fibrous PEAT (H3,B2).
	0.50 - 1.00	C	0.50 - 1.00	Recovery = 100%	1.40			Dark brown pseudo-fibrous PEAT (H5,B3).
	1.00 - 1.40	C	1.00 - 1.40	Recovery = 100%				Peat Core Complete at 1.40m

Remarks:

PA1
0.00m – 0.50m

PA1
0.50m – 1.00m

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Glentarken Windfarm

sse

Project No.: 405.065137.00001

Photograph Date: 5th September 2024

PA1
1.00m –1.50m

PA1
1.50m – 2.00m

SLR

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Web: www.slrconsulting.com

Glentarken Windfarm

sse

Project No.: 405.065137.00001

Photograph Date: 5th September 2024

PA1
2.00m – 2.50m

PA2
0.00m – 0.50m

SLR

Floor 2
4 Redheughs Rigg
South Gyle
Edinburgh
EH12 9DQ

Tel: 0131 335 6830
Fax: 0131 335 6831
Web: www.slrconsulting.com

Glentarken Windfarm

sse

Project No.: 405.065137.00001

Photograph Date: 5th September 2024

PA2
0.50m –1.00m

PA2
1.00m – 1.50m

SLR

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Photograph Date: 5th September 2024

PA2
1.50m – 2.00m

PA2
2.00m – 2.50m

SLR

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Photograph Date: 5th September 2024

PA2
2.50m – 3.00m

PA2
3.00m – 3.50m

SLR

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Photograph Date: 5th September 2024

PA3
0.00m – 0.50

PA3
0.50m – 1.00m

SLR

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PA3
1.00m – 1.50m

PA3
1.50m – 2.00m

SLR

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PA3
2.00m – 2.50m

PA3
2.50m – 3.00m

SLR

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PA4
0.00m – 0.50m

PA4
0.50m – 1.00m

SLR

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PA4
1.00m – 1.50m

PA4
1.50m – 2.00m

SLR

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PA4
2.00m – 2.30m

PA5
0.00m – 0.50m

SLR

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Photograph Date: 5th September 2024

PA5
0.50m – 1.00m

PA5
1.00m – 1.50m

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Glentarken Windfarm

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Photograph Date: 5th September 2024

PA6
0.00m – 0.50m

PA6
0.50m – 1.00m

SLR

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Glentarken Windfarm

sse

Project No.: 405.065137.00001

Photograph Date: 5th September 2024

PA6
1.00m – 1.40m

Floor 2
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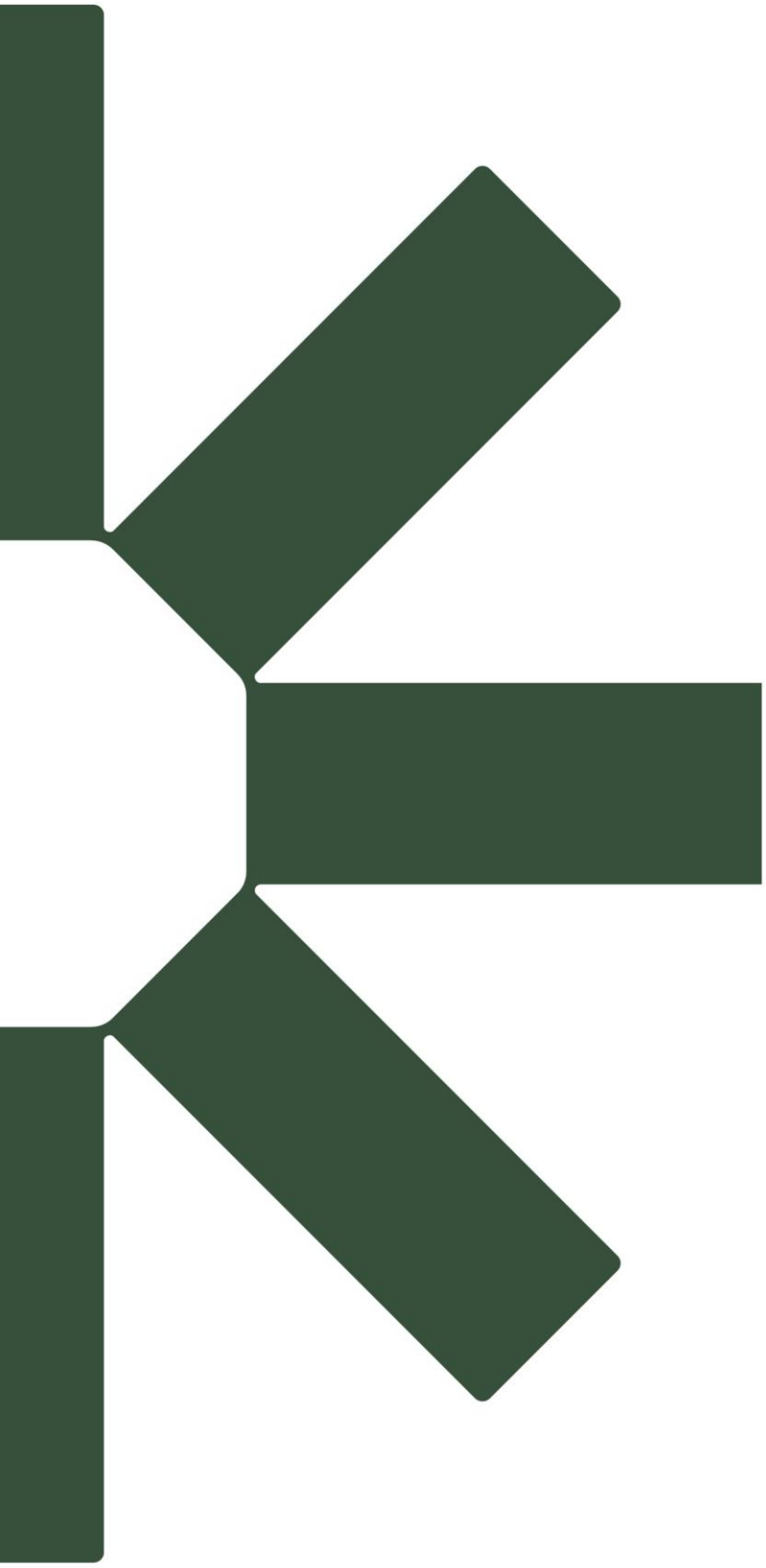
Glentarken Windfarm

Project No.: 405.065137.00001

Photograph Date: 5th September 2024



Making Sustainability Happen