



APPENDIX 8-1

GEOTECHNICAL AND PEAT STABILITY REPORT



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

CRUMHACH WIND FARM

GEOTECHNICAL & PEAT STABILITY REPORT

Prepared for: MKO Ltd



Date: June 2026

Document No:
P23240-FT-EGT-XX-RP-GE-0001

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Crumhach Wind Farm Geotechnical & Peat Stability Assessment Report

User is responsible for Checking the Revision Status of this Document

Rev. No.	Description of Changes	Prepared by:	Checked by:	Approved by:	Date:
0	Draft for Comment	IH	ATC	TC	10.04.26
1	Updates following comments	IH	ATC	TC	30.06.26

Client: MKO Ltd

Keywords: Geotechnical, Peat Stability, Peat Failure, Risk Assessment

Abstract: Fehily Timoney and Company (FT) were engaged by McCarthy Keville O'Sullivan (MKO) to undertake a geotechnical assessment of the Proposed Wind Farm with respect to peat stability. As part of the geotechnical assessment of the Proposed Project, FT completed walkover surveys at the Proposed Wind Farm. The findings of the geotechnical and peat stability assessment showed that the Proposed Wind Farm has an acceptable margin of safety and is suitable for the Proposed Project.

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1. NON-TECHNICAL SUMMARY

Fehily Timoney and Company (FT) was engaged by MKO (on behalf of SSE) to undertake a geotechnical and peat stability assessment of the proposed Crumhach Wind Farm, located in north Co. Sligo. In accordance with planning guidelines compiled by the Department of the Environment, Heritage and Local Government (Wind Energy Development Guidelines, DoEHLG, 2006), where peat >0.5m thickness is present on a proposed wind farm development, a peat stability assessment is required.

A walkover including intrusive peat depth probing, ground investigation, desk study, stability analysis and risk assessment was carried out to assess the susceptibility of the Proposed Wind Farm to peat failure following the principles in Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (2nd Edition, Scottish Government, 2017).

The findings, which involved a stability analysis of 275 locations, show that the Proposed Wind Farm has an acceptable margin of safety and is suitable for the Proposed Project. The findings include recommendations and control measures for construction work in peat lands to ensure that all works adhere to an acceptable standard of safety.

The Proposed Project comprises 17 no. wind turbines and associated infrastructure. A detailed description of the Proposed Project is included in Chapter 4 of the EIAR.

In addition to the Existing Wind Farm, land-cover on the Proposed Wind Farm primarily comprises peat bog, with coniferous forest to the north-west, east and south of the Proposed Wind Farm. South of the Proposed Wind Farm comprises largely of transitional wood scrub, while land-use in the northern end of the Proposed Wind Farm comprises largely of pastoral agriculture and low-density residential.

The Proposed Wind Farm can be split into two distinct areas, the western section (T01-T05), which is predominantly flat (typically <3 degrees), and the remainder of the Proposed Wind Farm, where the slopes range from 4 to 12 degrees. Ground conditions comprised mainly of blanket peat overlying silt and gravel, overlying bedrock.

Between August 2024 and March 2026, 850 no. peat depth readings were taken within the Proposed Wind farm. Peat depth recorded during the site walkovers and from the ground investigation ranged from 0.0 to 7.2m with an average peat depth of 1.15m. 76% of the probes recorded peat depths of less than 2.0m with 90% of peat depth probes recorded peat depths of less than 3.0m. A number of localised readings recorded peat depths from 3.0 to 7.2m. The deeper peat areas were generally avoided when optimising the Proposed Wind Farm layout.

The purpose of the stability analysis was to determine the stability i.e. Factor of Safety (FoS), of the peat slopes. The FoS provides a direct measure of the degree of stability of a peat slope. A FoS of less than 1.0 indicates that a slope is unstable; a FoS of greater than 1.0 indicates a stable slope. However, taking a precautionary approach, an acceptable FoS for slopes is generally taken as a minimum of 1.3. The stability analysis for this project, which analysed the turbine locations, access tracks and substation, resulted in FoS above the minimum acceptable value of 1.3 and hence the Proposed Wind Farm has a satisfactory margin of safety.

From the stability analysis for both the undrained and drained conditions, which analysed the turbine locations and other proposed infrastructure locations, the calculated values were above the minimum acceptable FoS of 1.3.



The risk assessment uses the results of the stability analysis in combination with qualitative factors, which cannot be reasonably included in a stability calculation but nevertheless may affect the occurrence of peat instability, to assess the risk of peat failure at the Proposed Wind Farm. The results of the risk assessment are given in Appendix B. A construction buffer zone plan based on qualitative factors identified during the site walkover is included as Drawing P23-240-0600-0003 and 0004.

In summary, the Proposed Wind Farm has an acceptable margin of safety and is considered to be at **low** risk of peat failure taking into account the proposed mitigation measures and construction controls set out in this report are implemented and is suitable for the Proposed Project.



2. INTRODUCTION

2.1 Fehily Timoney and Company

Fehily Timoney and Company (FT) is an Irish engineering, environmental science and planning consultancy with offices in Cork, Dublin and Carlow. The practice was established in 1990 and currently has about 100 members of staff, including engineers, scientists, planners and technical support staff. FT deliver projects in Ireland and internationally in our core competency areas of Waste Management, Environment and Energy, Civils Infrastructure, Planning and GIS and Data Management.

FT have been involved in over 100 wind farm developments in both Ireland and the UK at various stages of development i.e., preliminary feasibility, planning, design, construction, and operational stage and have established themselves as one of the leading engineering consultancies in peat stability assessment, geohazard mapping in peat land areas, investigation of peat failures and site assessment of peat.

This Report was written by Ian Higgins (FT Technical Director, PGeo, MSc. Geotechnical Engineering). Ian is a Technical Director with Fehily Timoney and has over 25 years' experience in geotechnical engineering.

2.2 Project Description

FT was engaged in March 2024 by McCarthy Keville O'Sullivan (MKO) to undertake a geotechnical & peat stability assessment of the proposed Crumhach Wind Farm (the 'Proposed Project').

Where the 'Proposed Project' is referred to this encompasses the entirety of the project for the purposes of this EIA in accordance with the EIA Directive. The Proposed Project is described in detail in Chapter 4 of the EIAR.

Where 'the Site' is referred to, this relates to the primary study area for the EIAR, as delineated by the EIAR Site Boundary and encompasses an area of approx. 1546ha.

Where the 'Proposed Wind Farm' is referred to, this refers to turbines and associated foundations and hard-standing areas, access tracks, temporary construction compounds, onsite 110kV substation, internal underground cabling, onsite LiDAR compounds, peat and spoil management, site drainage, biodiversity enhancement, turbine delivery route (TDR) accommodation works and all ancillary works and apparatus. The Proposed Wind Farm is described in detail in Chapter 4 of the EIAR.

The 'Proposed Turbines' refers to the 17 no. turbines associated with the Proposed Wind Farm as outlined above.

The Proposed Project is located on the northwest slopes of the Ox Mountains, located approx. 4.5km south of the village of Dromore West, and approx. 3km southwest of the village of Templeboy in Co. Sligo, at their nearest points.

The Proposed Wind Farm comprises predominantly commercial forestry underlain by blanket peat, as well as open peatland. The Proposed Wind Farm encompasses the Existing Wind Farm, which is owned and operated by SSE. In addition to the Existing Wind Farm, land-cover on the Proposed Wind Farm primarily comprises peat bog, with coniferous forest to the north-west, east and south of the Proposed Wind Farm. South of the Proposed Wind Farm comprises largely of transitional wood scrub, while land-use in the northern end of the Proposed Wind Farm comprises largely of pastoral agriculture and low-density residential.



The Proposed Project will comprise 17 no. wind turbines and associated hardstanding areas, 1 no. 110kV electricity substation, 3 no. borrow pits, 5 no. peat placement areas, 3 no. temporary construction compounds, upgrade of existing roads, construction of new site access tracks, Proposed Grid Connection Route connecting to the existing Srananagh 220kV substation, road widening and accommodation works along the turbine delivery route, site drainage, and all associated work as described in Chapter 4 of the EIAR.

2.3 Peat Stability Assessment Methodology

FT undertook the assessment following the principles in Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (2nd edition, Scottish Government, 2017). The Peat Landslide Hazard and Risk Assessment Guide (PLHRAG) is used in this report as it provides best practice methods to identify, mitigate and manage peat slide hazards and associated risks in respect of consent applications for electricity generation projects.

The aforementioned best practice guide was produced following peat failures in the Shetland Islands, Scotland in September 2003 but more pertinently following the peat failure in October 2003, during the construction of a wind farm at Derrybrien, County Galway, Ireland.

This peat stability assessment has been undertaken taking into account peat failures that have occurred on upland peatland sites (including recent failures at Shass Mountain (2020), Co. Leitrim and Meenbog (2020), Co. Donegal). The lessons learned from both peat slide events have been incorporated into the design of this project and the construction methodologies to be implemented. The Meenbog failure, which occurred during wind farm construction works, involved the presence of a large area of deep, soft peat, the presence of poorly maintained forestry drainage, and the presence of a break in slope along the downslope margin of the area of deep peat, all of which were considered contributory factors to the failure which occurred as a floating road was under construction along the downslope edge of the deep peat area. The failure at Shass Mountain occurred where a large volume of water draining from a forestry plantation was concentrated into the headwaters of a stream, in an area of deep peat (>4m).

The peat depth across the Proposed Project is significantly shallower than at Meenbog, with the exception of two areas that are downslope of the Proposed Project and as such will not be significantly impacted by the Proposed Project. It is important that the existing site drainage is maintained during construction to avoid a similar failure to that on Shass Mountain, which occurred following heavy rainfall, and this is referenced in the Risk Assessments for the turbines/access tracks. However, the Shass Mountain failure occurred in an area containing a deep peat layer (4-5m in depth), and the peat depths across the Crumhach site are typically less than 2.0m around the infrastructure of the Proposed Project, meaning that this type of failure is highly unlikely. It is also noted that there have been numerous wind farms successfully constructed on blanket bog sites over the past 15 years without any issues relating to peat failure, such as Galway Wind Park and Arderroo Wind Farm (both Co. Galway).

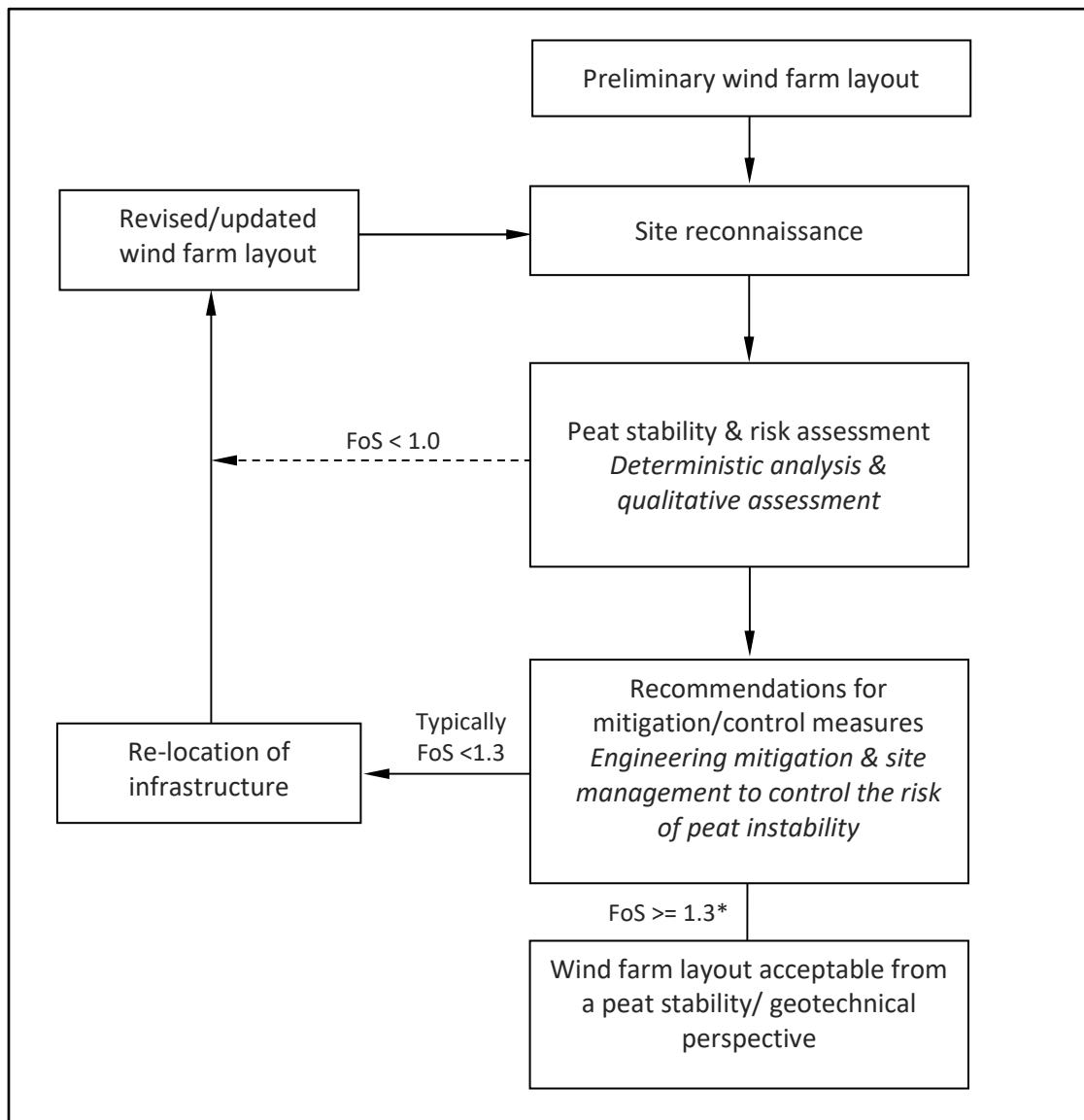
A constraints study was initially undertaken by the Environmental, Hydrogeological and Ecological members of the design team to determine the developable area on the Proposed Wind Farm, prior to the site reconnaissance by engineering geologists/geotechnical engineers from FT. The extent and depth of ground investigation and peat stability analysis by FT have been undertaken in accordance with guidance within Eurocode 7 and PLHRAG (2nd Edition, Scottish Government, 2017) to investigate peat slopes that have the potential to impact on the Proposed Project, as applicable. Sufficient peat depth data has been recorded during the site walkovers to enable the characterisation of the peat depth across the Proposed Wind Farm, with additional detail at infrastructure locations. The peat stability assessment is undertaken to identify peat slopes at risk from the Proposed Project, and to identify peat slopes that may pose a risk to the Proposed Project.



The geotechnical and peat stability assessment at the Proposed Wind Farm included the following activities:

- (1) Desk study involving the review of publicly available soils and geology maps, records of historical peat failures, aerial photography.
- (2) Site reconnaissance including shear strength and peat depth measurements undertaken following a multidisciplinary constraints study (by the design team) to determine the proposed construction envelope within the Proposed Wind Farm i.e. the area within the overall Site where development is possible following multidisciplinary review and assessment of constraints (refer to Chapter 3 of the EIAR).
- (3) Peat stability assessment of the peat slopes on the Proposed Wind Farm using a deterministic and qualitative approach.
- (4) Peat contour depth plan – compiled based on the peat depth probes carried out across the Proposed Wind Farm by FT (2024 and 2025), HES (2024) and MKO (2024, 2025 and 2026).
- (5) Factor of safety plan – compiled for the short-term critical condition (undrained) for 287 no. FoS points analysed along the proposed infrastructure envelope on the Proposed Wind Farm.
- (6) Construction buffer zone plan – identifies areas with an elevated or higher construction risk where mitigation/control measures will need to be implemented during construction to minimise the potential risks and ensure they are kept within an acceptable range.
- (7) A peat stability risk register was compiled to assess the potential design/construction risks at the infrastructure locations and determine adequate mitigation/control measures for each location to minimise the potential risks and ensure they are kept within an acceptable range, where necessary.
- (8) Review of ground investigation carried out at the Proposed Wind Farm by Irish Drilling Ltd (IDL) in 2025.
- (9) Commentary of founding details for other infrastructure elements such as access tracks, crane hardstands, substation and construction compound platforms.

A flow diagram showing the general methodology for the peat stability assessment is shown in Figure 2.1. The methodology illustrates the optimisation of the wind farm layout based on the findings from the site reconnaissance and stability analysis and subsequent feedback.



*An FoS of between 1.0 and 1.3 does not mean that a failure will occur, but that the area requires attention. Mitigation measures can be provided for areas with an FoS of between 1.0 and 1.3 to reduce the risk of failure.

Figure 2.1: Methodology for Peat Stability Assessment

As for all construction projects, a detailed engineering construction design must be carried out by the appointed construction stage designer prior to any construction work commencing on a site. This must take account of the consented project details and any conditions imposed by that consent. This must include a confirmatory peat stability assessment to account for any changes in the environment which may have occurred in the time leading up to the commencement of construction.

2.4 Peat Failure Definition

Peat failure in this report refers to a significant mass movement of a body of peat that would have an adverse impact on the proposed wind farm development or the surrounding environment. Peat failure excludes localised movement of peat that would occur below an access track, creep movement or erosion type events.



The potential for peat failure at this site is examined with respect to wind farm construction and associated activity.

2.5 Main Approaches to Assessing Peat Stability

The main approaches for assessing peat stability for wind farm developments include the following:

- (1) Geomorphological
- (2) Qualitative (judgement)
- (3) Index/Probabilistic (probability)
- (4) Deterministic (factor of safety)

Approaches (1) to (3) listed above are considered subjective and do not provide a definitive indication of stability; in addition, a high level of judgement/experience is required which makes it difficult to relate the findings to real conditions. FT apply a more objective approach, the deterministic approach (as discussed in Section 2.6).

As part of FT's deterministic approach, a qualitative risk assessment is also carried out taking into account qualitative factors, which cannot necessarily be quantified, such as the presence of mechanically cut peat, quaking peat, bog pools, sub peat water flow, slope characteristics and numerous other factors. The qualitative factors used in the risk assessment are compiled based on FT's experience of assessments and construction in peat land sites and peat failures throughout Ireland and the UK. FT have been involved with in excess of 100 wind farm developments across Ireland and the UK at various stages of development, from preliminary feasibility stage through planning and from scheme development at tender design and detailed design stage, through to the construction and operational stages. This approach follows the guidelines for geotechnical risk management as given in Clayton (2001), as referenced in the best practice for Peat Landslide Hazard and Risk Assessment Guide (2nd Edition, Scottish Government, 2017), and takes into account the approach of MacCulloch (2005).

The risk assessment uses the results of the deterministic approach in combination with qualitative factors, which cannot be reasonably included in a stability calculation but nevertheless may affect the occurrence of peat instability to assess the risk of instability on a peat land site.

2.6 Peat Stability Assessment – Deterministic Approach

The peat stability assessment is carried out across a wide area of peatland to determine the stability of peat slopes and to identify areas of peatland that are suitable for development; this allows the layout of infrastructure on a particular wind farm site to be optimised. The assessment provides a numerical value (factor of safety) of the stability of individual parcels of peatland. The findings of the assessment differentiate between areas of stable and unstable peat, and areas of marginal stability where restrictions may apply. This allows for the identification of the most suitable locations for turbines, access tracks and infrastructure.

A deterministic assessment requires geotechnical information and site characteristics which are obtained from desk study and site walkover, e.g. properties of peat/soil/rock, slope geometry, depth of peat, underlying strata, groundwater, etc. An adverse combination of the factors listed above could potentially result in instability. Using the information above, a factor of safety is calculated for the stability of individual parcels of peatland on a site (as discussed in Section 7).



The factor of safety is a measure of the stability of a particular slope. For any slope, the degree of stability depends on the balance of forces between the weight of the soil/peat working downslope (destabilising force) and the inherent strength of the peat/soil (shear resistance) to resist the downslope weight, see Figure 2.2.

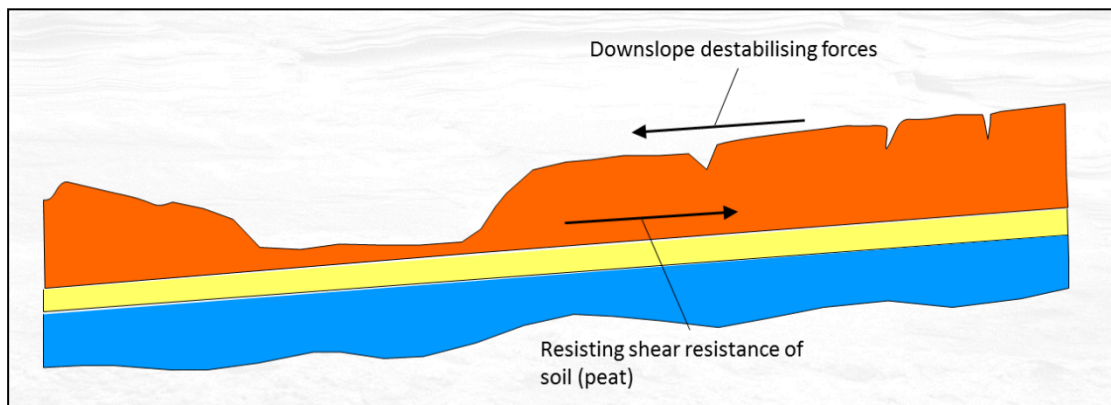


Figure 2.2: Peat Slope Showing Balance of Forces to Maintain Stability

The factor of safety provides a direct measure of the degree of stability of a slope and is the ratio of the shear resistance over the downslope destabilising force. Provided the available shear resistance is greater than the downslope destabilising force then the factor of safety will be greater than 1.0 and the slope will remain stable. If the factor of safety is less than 1.0 the slope is unstable and liable to fail. The acceptable factor of safety for assessment purposes is 1.3 (BS6031, 1981).

2.7 Applicability of the Factor of Safety (Deterministic) Approach for Peat Slopes

The factor of safety approach is a standard engineering approach in assessing slopes which is applied to many engineering materials, such as peat, soil, rock, etc.

The factor of safety approach is included in the Peat Landslide Hazard and Risk Assessments Best Practice Guide for Proposed Electricity Generation Developments (2nd Edition, Scottish Government, 2017); see Section 5.3.1 of the guide. This guide provides best practice methods to identify, mitigate and manage peat slide hazards and associated risks in respect of consent applications for electricity generation projects.

Furthermore, the best practice guide notes that the results from the factor of safety approach 'has provided the most informative results' with respect to analysing peat stability (Section 5.3.1 of the guide).

The factor of safety approach in this report includes undrained (short-term stability) and drained (long-term stability) analyses. The undrained condition is the critical condition for the development. The purpose of the drained analysis is to identify the relative susceptibility of rainfall-induced failures at the Proposed Wind Farm.

Notwithstanding the above, the stability analysis used by FT in this report also includes qualitative factors to determine the potential for peat stability i.e. the analysis used does not solely rely on the factor of safety approach.

The deterministic analysis is considered an acceptable engineering design approach. This concurs with the best practice guide referenced above.



2.8 Assessment of Changes in Water Level on the Peat Slope

The deterministic approach carried out by FT examines changes in water level within the peat layer. The deterministic approach includes an undrained (short-term stability) and drained (long-term stability) analysis to assess the factor of safety for the peat slopes against a peat failure.

The drained loading condition applies in the long-term. This condition examines the effect of the change in groundwater level as a result of rainfall on the existing stability of the natural peat slopes. For the drained analysis the level of the water table above the failure surface is required to calculate the factor of safety for the peat slope.

In order to represent varying water levels within the peat slopes, a sensitivity analysis is carried out which assesses varying water level in the peat slopes i.e. water levels ranging from 0 to 100% of the peat depth is conducted, where 0% equates to the peat been completely dry and 100% equates to the peat being fully saturated.

By carrying out such a sensitivity analysis the varying water levels in the peat slopes are considered and analysed. The results of this analysis are presented in Section 7 of this report.



3. DESK STUDY

3.1 Desk Study

The main relevant sources of interest with respect to the Proposed Wind Farm include:

- Geological plans and Geological Survey of Ireland database
- Ordnance survey plans
- Literature review of peat failures

The Geological Survey of Ireland online dataset viewer (GSI, 2026) and geological plans (GSI, 1999) for the Proposed Wind Farm were used to verify the soil and bedrock conditions.

The Ordnance Survey plans were reviewed to determine if any notable features or areas of particular interest (from a geotechnical point of view) are present on the Proposed Wind Farm.

The desk study also includes a review of both published literature and GSI online dataset viewer (GSI, 2026) on peat failures/landslides in the vicinity of the Proposed Wind Farm.

3.2 Soils, Subsoil & Bedrock

A review of the Geological Survey of Ireland online database and published documents from GSI namely sheet 7 Geology of Sligo-Leitrim was carried out.

A review of the GSI subsoils maps indicate that the Proposed Wind Farm is mainly overlain by blanket peat, with localised areas of till derived from Metamorphic rock, Alluvium associated with the stream/river valleys and localised areas of bedrock outcrop or subcrop.

In relation to bedrock, the Proposed Wind Farm is underlain by three different bedrock formations. Predominantly the site location is underlain by Attymass Group (undifferentiated), which is described as undifferentiated schist & amphibolite. The northwestern corner of the Proposed Wind Farm is underlain by Glencar Limestone Formation, which is described as dark fine limestone & calcareous shale. The southeastern corner of the Proposed Wind Farm is underlain by the Meelick Member, described as Schist, aluminous schist and pebble beds.

There are three fault-lines running northeast to southwest through the Proposed Wind Farm.

No geological heritage sites are noted within the Proposed Wind Farm. The closest feature is approximately 0.8km south of T05. The feature is described as the Easky River solifluction lobe, which is a lobed surface deposit of unconsolidated material at foot of hillslope.

The landslide susceptibility of the Proposed Wind Farm was classified by the GSI (2026) as ranging from “low” to “high” susceptibility, which is expected given the terrain present. The areas of ‘high’ susceptibility correspond to steeper slopes present upslope of T14 and around T15 and T16, where there is little to no peat present.



3.3 Previous Failures

There are no recorded peat failures within the Proposed Wind Farm recorded on the GSI database (GSI, 2026). The nearest recorded slope failures are located approximately 6km southwest of the Proposed Wind Farm in the townland of Tawnaneilleen. No details are available for these failures.



4. FINDINGS OF SITE RECONNAISSANCE

4.1 Site Reconnaissance

As part of the assessment of potential peat failure at the Proposed Wind Farm, FT carried out a site reconnaissance in conjunction with the desk study review described in Section 3. This comprised walkover inspections of the Proposed Wind Farm with recording of salient geomorphological features with respect to the Proposed Project which included peat depth and preliminary assessment of peat strength. General photographs of the Proposed Wind Farm are included at the end of the main text.

The following salient geomorphological features were considered:

- Active, incipient or relict instability (where present) within the peat deposits
- Presence of shallow valley or drainage line
- Wet areas
- Any change in vegetation
- Peat depth
- Slope inclination and break in slope

The survey covered the proposed locations for the turbine bases and associated infrastructure.

The method adopted for carrying out the site reconnaissance relied on experienced practitioners carrying out a visual assessment of the Proposed Wind Farm supplemented with measurement of slope inclinations.

4.2 Findings of Site Reconnaissance

The site reconnaissance comprised a walkover inspection by engineers from FT of the Proposed Wind Farm from the 7th to the 8th July and the 16th and 17th October 2024, and the 27th to the 29th May 2025. Weather conditions for the site visits were mixed. Further site visits have been undertaken by HES and MKO during 2024, 2025 and 2026.

The findings from the site walkover have been used to optimise the layout of the infrastructure on the Proposed Wind Farm.

The main findings of the site walkover of the Proposed Wind Farm are as follows:

- (1) The Proposed Wind Farm is mainly covered in a layer of peat and has an undulating terrain. Peat depths vary across the Proposed Wind Farm depending on mainly topography. Generally deeper peat was encountered in the flatter areas of the Proposed Wind Farm with thinner peat on the surrounding slopes. Mature forestry, young forestry, and open peatland are present across the Proposed Wind Farm (see Appendix A).
- (2) A total of 850 no. peat depth probes were carried out on the Proposed Wind Farm. Peat depths recorded across the Proposed Wind Farm ranged from 0.0 to 7.2m with an average depth of 1.15m (Drawing P23-240-0600-0001). 90 percent of peat depth probes recorded peat depths of less than 3.0m. A number of localised readings were recorded where peat depths were between 3.0 and 7.2m. The deepest peat area is in the centre of the existing wind farm, to the north and southwest of T11.



- (3) Three areas of deep peat were recorded during the site walkovers. These are located to the southeast, southwest and north of the proposed T11. Each of these areas are more than 100m from the proposed turbine location.
- (4) The peat depths recorded at the turbine locations varied from 0.2 to 3.0m with an average depth of 1.3m.
- (5) With respect to the proposed access tracks, peat depths are typically less than 2.0m (average 1.8m) with localised depths of up to 4.4m recorded along the existing access track between T12 and T13.
- (6) Slope angles at the turbine locations ranged from 2 to 7 degrees. These slope angle readings were obtained using a combination of readings taken during the site reconnaissance by FT using handheld equipment, such as the Silva Clino Master which has an accuracy of +/- 0.25 degrees and from contour survey plans for the Proposed Wind Farm.
- (7) The slope angle quoted typically reflects the slope within the footprint of each infrastructure location.
- (8) No evidence of past failures or any significant signs of peat instability were noted on site at the time of the site walkovers.
- (9) A summary of the site walkover findings for the wind farm are as follows:
 - (a) The Proposed Wind Farm is typically covered in a layer of peat with undulating terrain and widespread mature and young forestry. Peat depths recorded across the Proposed Wind Farm ranged from 0.0 to 7.2m with an average depth of 1.15m.
 - (b) A construction buffer zone plan has been produced for the Proposed Wind Farm (Drawing P23-240-0600-0003 and 0004). This shows areas on the Proposed Wind Farm where no development will be carried out and areas with an elevated or higher construction risk. The above identified buffer areas are based on qualitative factors identified during the walkover survey e.g. relatively deep peat, quaking peat, mechanically cut peat, recent peat landslide, etc.
 - (c) The results of the peat depth probing, shear strength testing of the peat and qualitative factors identified on the Proposed Wind Farm have been used in the stability and risk assessments, see Sections 6, 7 and 8 of this report for details.
 - (d) Based on the findings from the walkover survey, the Proposed Project is considered to have a **low** risk of peat failure.



5. GROUND INVESTIGATION

Ground investigations, in the form of trial pits, were carried out at the Proposed Wind Farm by Irish Drilling Limited (IDL) under the supervision of FT between 15th and 23rd July 2025.

The ground investigation by IDL comprised 19 no. trial pits and laboratory testing. The trial pits were carried out at various locations across the Proposed Wind Farm to provide information on the ground conditions, and to investigate the potential to develop borrow pits within the Proposed Wind Farm.

The laboratory testing comprised classification tests carried out on the overburden material.

The trial pits logs, photographs and associated laboratory testing are included within Appendix F of this report. A ground investigation location plan is included as drawing P23-240-0600-0005 and 0006 in this report.

Historical investigations were undertaken as part of Dunneill Wind Farm by Whiteford Geoservices Ltd in 2008. This comprised trial pits (16 no.) and dynamic probes (6 no.), the majority of which were excavated outside of the footprint of the Proposed Wind Farm. An earlier ground investigation was undertaken by Glover Site Investigations Ltd in 2001 for Kingsmountain Wind Farm (on behalf of ESBI), which comprised boreholes (11 no.) and dynamic probes (38 no.). A preliminary site investigation by ESBI Engineering Ltd. was undertaken in October 2001 at the Kingsmountain site, comprising 11 no. trial pits. Of these three investigations, only the locations of the more recent Whiteford (2008) investigation are known with any certainty.

5.1 Summary of Ground Conditions

The ground conditions at the Proposed Wind Farm can be typically categorised into the following deposits:

Peat – Typically described as soft dark brown pseudo fibrous peat. Peat thicknesses from the trial pits ranged from 0.1 to 2.0m.

Glacial Till – Typically described as silty fine to medium SAND, subangular to subrounded fine to coarse schist GRAVEL with frequent cobbles and occasional boulders. Cobbles are angular to subangular of schist. The thickness of the layer varies across the Proposed Wind Farm depending on topography and depth to bedrock.

Also recorded as firm sandy gravelly SILT, a cohesive glacial deposit.

Groundwater was noted during the excavation of ten of the trial pits. Groundwater was recorded at depth of between 1.0 and 3.1m bgl, with flow rate not recorded.

5.2 Summary of Laboratory Tests

Laboratory testing comprising moisture content, Atterberg limit tests and particle size distribution (PSD) testing was undertaken on samples from the trial pits. Based on the results of the particle size distribution (PSD) tests, the descriptions on the final trial pit logs have been updated.

Atterberg limit tests carried out on the cohesive samples classify the material as Clay of low plasticity, or non-plastic (Silt).



5.3 Summary of Geotechnical Parameters

Table 5.1 contains characteristic geotechnical parameters for the main material types likely to be encountered on the Proposed Wind Farm. Where direct measurement of parameters has not been carried out, established correlations with measured properties have been used to derive values. Characteristic values are defined as a cautious estimate of the value affecting the occurrence of limit state based on Clause 2.4.5.2 from Eurocode 7. Values have been derived from both laboratory testing and in-situ (shear vane) measurements.

Table 5.1: Summary of Geotechnical Parameters

Material Type/Strata	Unit Weight	Geotechnical Parameters		
		Undrained Parameters	Drained Parameters	
	γ (kN/m ³)	c_u (kPa)	ϕ' (°) ⁽⁴⁾	c' (kPa)
Peat	10.5	6 ⁽³⁾	25	4
Granular Glacial Till	19	-	32	-
Cohesive Glacial Till	19	50	30	0
Weathered Bedrock	21	-	36	-

Notes

Note (1) The above parameters are indicative only and have been derived based on experience and from a review of the ground investigation carried out at the Proposed Wind Farm.

Note (2) Where direct measurement of parameters has not been carried out, established correlations with measured properties have been used to derive values.

Note (3) A lower bound undrained shear strength, c_u for the peat of 6kPa was selected. The lowest recorded value on the Proposed Wind Farm was 3kPa, which was only recorded in one location in an area of deep peat where no development is proposed, hence a value of 6kPa is a conservative value.

Note (4) ϕ' (°) – internal angle of shearing resistance.



6. PEAT DEPTHS, STRENGTH & SLOPE AT PROPOSED INFRASTRUCTURE LOCATIONS

As part of the Proposed Wind Farm walkover, peat depth, in-situ peat strength and slope angles were recorded at various locations across the Proposed Wind Farm.

6.1 Peat Depth

Peat depth probes were carried out at proposed turbine locations and along access tracks and other main infrastructure elements. At turbine locations 5 no. probes were carried out around the turbine location, and an average peat depth was calculated.

6.2 Peat Strength

The strength testing was carried out in-situ using a Geonor H-60 Hand-Field Vane Tester. From FT's experience hand vanes give indicative results for in-situ strength of peat and would be considered best practice for the field assessment of peat strength.

6.3 Slope Angle

The slope angles at each of the main infrastructure locations were obtained using a combination of readings taken during the site reconnaissance by FT using handheld equipment, such as the Silva Clino Master and from contour survey plans for the Proposed Wind Farm. Where MKO or HES recorded peat depths on the Proposed Wind Farm the slope angle has been taken from the contour plans.

The slope angle quoted typically reflects the slope within the footprint of each infrastructure location. It should be noted that slope angles derived from contour survey plans would be considered approximate, as such surveys are dependent on the density of survey data and do not always reflect local variations in ground topography. Slope angles recorded during the site reconnaissance by FT using handheld equipment would generally be deemed more accurate and representative of local topography.

6.4 Summary of Findings

Based on the peat depths recorded across the Proposed Wind Farm by FT and MKO, the peat varied in depth from 0.0 to 7.2m with an average depth of 1.15m. All peat depth probes carried out on the Proposed Wind Farm have been utilised to produce a peat depth contour plan for the Proposed Wind Farm (Drawing P23-240-0600-0001 and 0002). Three areas of deep peat were recorded during the site walkovers. These are located to the southeast, southwest and north of the proposed T11. Each of these areas are more than 100m from the proposed turbine location.

A summary of the peat depths at the proposed infrastructure locations is given in Table 6.1. The data presented in Table 6.1 is used in the peat stability assessment of the Proposed Wind Farm.



Table 6.1: Peat Depth & Slope Angle at Proposed Infrastructure Locations

Turbine	Easting	Northing	Peat Depth Range (m) ⁽¹⁾	Average Peat Depth (m)	Slope Angle (°) ⁽²⁾
T01	543507	826746	0.0-1.6	0.4	5
T02	543440	827861	1.0-2.0	1.5	3
T03	543602	826404	1.5-2.0	1.8	5
T04	543655	827452	2.5-2.7	2.6	5
T05	543940	826035	0.9-2.3	1.8	5
T06	544012	828489	2.6-3.0	2.8	3
T07	544519	828995	0.1-0.4	0.25	12
T08	545257	828620	0.0-0.5	0.2	8
T09	545425	828224	0.1-0.3	0.2	12
T10	546041	828377	0.2-0.8	0.5	4
T11	546688	828662	0.3-1.7	0.7	8
T12	547273	828804	0.6-1.4	1.0	4
T13	547412	829297	0.5-3.2	1.2	3
T14	547754	828352	0.0-2.1	0.5	6
T15	548292	828210	0.0-1.5	0.5	10
T16	548570	827462	0.0-0.8	0.2	9
T17	548194	827756	0.4-1.5	0.8	8
Onsite 110kV Substation	543642	828912	0.2-2.0	1.0	8
Met Mast	548483	827391	0.0-1.0	0.5	10
Construction Compound (1)	544224	826048	0.1-2.9	1.8	4
Construction Compound (2)	547440	828280	1.9-2.3	2.1	5
Construction Compound (3)	545217	829009	0.0-0.4	0.2	5
Construction Compound (SS)	543562	828967	0.5-1.5	1.0	3
Borrow Pit 1	545803	828206	0.0-0.9	0.4	3
Borrow Pit 2	547749	828412	0.1-1.0	0.5	12
Borrow Pit 3	548009	828152	0.0-0.6	0.3	20

Note (1) Based on probe results from the site walkovers. The range of peat depths for the infrastructure locations are based on a 10m grid carried out around the infrastructure element, where accessible.

Note (2) The slope angles at each of the main infrastructure locations were obtained using a combination of readings taken during the site reconnaissance by FT using handheld equipment, such as the Silva Clino Master (which has an accuracy of +/- 0.25 degrees) and from contour survey plans for site. The slope angle quoted typically reflects the slope within the footprint of each infrastructure location.

Note (3) The data presented in the Table above is used in the peat stability assessment of the Proposed Wind Farm.



In addition to probing, in-situ shear vane testing was carried out as part of the ground investigation. Strength testing was carried out at selected locations across the Proposed Wind Farm to provide representative coverage of indicative peat strengths. The results of the vane testing with depth are presented in Figure 6.1.

The hand vane results indicate undrained shear strengths in the range 3 to 51kPa, with an average value of about 18kPa. The strengths recorded would be typical of well drained peat as is present across the majority of the Proposed Wind Farm. The lowest peat strengths were recorded in areas of deep, poorly drained, saturated peat (>3.0m), in areas where no development is proposed, and as such are not considered representative of the peat strength across the Proposed Wind Farm .

Peat strength at sites of known peat failures (assuming undrained loading failure) are generally very low, for example the undrained shear strength at the Derrybrien failure (AGEC, 2004) as derived from back-analysis, was estimated at 2.5kPa. The recorded undrained strength at the Proposed Wind Farm is significantly greater than the lower bound values for Derrybrien indicating that there is no close correlation to the peat conditions at the Derrybrien site and that there is significantly less likelihood of failure on the Proposed Wind Farm.

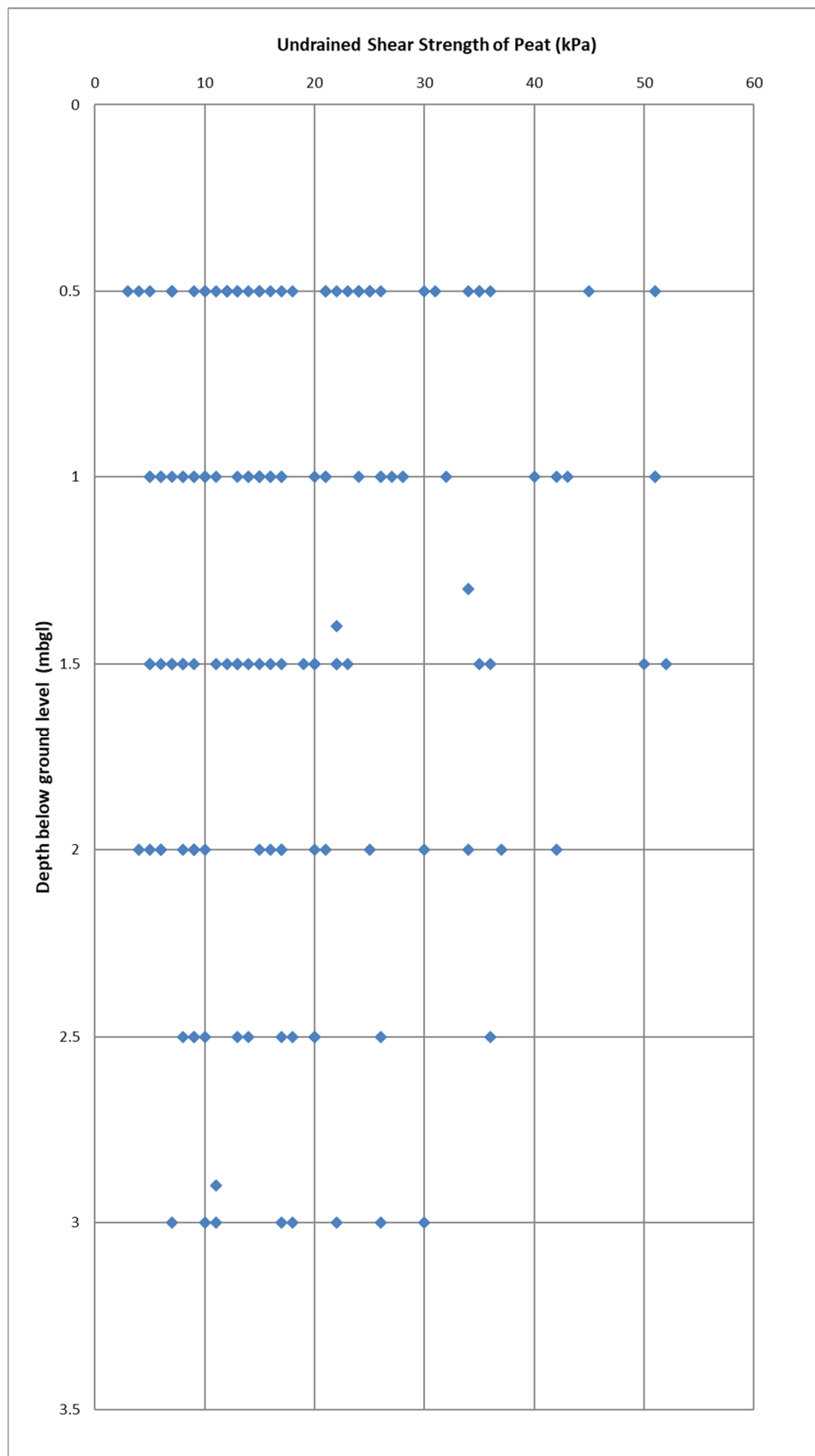


Figure 6.1: Undrained Shear Strength (c_u) Profile for Peat with Depth



7. PEAT STABILITY ASSESSMENT

The peat stability assessment includes an assessment of the stability of the natural peat slopes for individual parcels across the Proposed Wind Farm including at the turbine locations and along the proposed access tracks. The assessment also analyses the stability of the natural peat slopes with a surcharge loading of 10kPa, equivalent to placing 1m of stockpiled peat on the surface of the peat slope.

7.1 Methodology for Peat Stability Assessment

Stability of a peat slope is dependent on several factors working in combination. The main factors that influence peat stability are slope angle, shear strength of peat, depth of peat, pore water pressure and loading conditions.

An adverse combination of factors could potentially result in peat sliding. An adverse condition of one of the above-mentioned factors alone is unlikely to result in peat failure. The infinite slope model (Skempton and Delory, 1957) is used to combine these factors to determine a factor of safety for peat sliding. This model is based on a translational slide, which is a reasonable representation of the dominant mode of movement for peat failures.

To assess the factor of safety for a peat slide, an undrained (short-term stability) and drained (long-term stability) analysis has been undertaken to determine the stability of the peat slopes on site.

1. The undrained loading condition applies in the short-term during construction and until construction induced pore water pressures dissipate.
2. The drained loading condition applies in the long-term. The condition examines the effect of the change in groundwater level as a result of rainfall on the existing stability of the natural peat slopes.

Undrained shear strength values (c_u) for peat are used for the total stress analysis. Based on the findings of the 2003 Derrybrien failure and other failures in peat, undrained loading during construction was found to be the critical failure mechanism.

A drained analysis requires effective cohesion (c') and effective friction angle (ϕ') values for the calculations. These values can be difficult to obtain because of disturbance experienced when sampling peat and the difficulties in interpreting test results due to the excessive strain induced within the peat. To determine suitable drained strength values a review of published information on peat was carried out. Table 7.1 shows a summary of the published information on peat together with drained strength values.

From Table 7.1 the values for c' ranged from 1.1 to 8.74kPa and ϕ' ranged from 21.6 to 43°. The average c' and ϕ' values are 4.5kPa and 30° respectively. Based on the above, it was considered to adopt a conservative approach and to use design values below the averages. For design the following general drained strength values have been used for the Proposed Wind Farm:

$$\begin{aligned}c' &= 4\text{kPa} \\ \phi' &= 25^\circ\end{aligned}$$



Table 7.1: List of Effective Cohesion and Friction Angle Values for Peat

Reference	Cohesion, c' (kPa)	Friction Angle, ϕ' (deg)	Testing Apparatus/ Comments
Hanrahan et al (1967)	5 to 7	36 to 43	From triaxial apparatus
Rowe and Mylleville (1996)	2.5	28	From simple shear apparatus
Landva (1980)	2 to 4	27.1 to 32.5	Mainly ring shear apparatus for normal stress greater than 13kPa
	5 to 6	-	At zero normal stress
Carling (1986)	6.5	0	-
Farrell and Hebib (1998)	0	38	From ring shear and shear box apparatus. Results are not considered representative.
	0.61	31	From direct simple shear (DSS) apparatus. Result considered too low therefore DSS not considered appropriate
Rowe, Maclean and Soderman (1984)	1.1	26	From simple shear apparatus
	3	27	From DSS apparatus
McGreever and Farrell (1988)	6	38	From triaxial apparatus using soil with 20% organic content
	6	31	From shear box apparatus using soil with 20% organic content
Hungr and Evans (1985)	3.3	-	Back-analysed from failure
Dykes and Kirk (2006)	3.2	30.4	Test within acrotelm
Dykes and Kirk (2006)	4	28.8	Test within catotelm
Warburton et al (2003)	5	23.9	Test in basal peat
Warburton et al (2003)	8.74	21.6	Test using fibrous peat
Hendry et al (2012)	0	31	Remoulded test specimen
Komatsu et al (2011)	8	34	Remoulded test specimen
Zwanenburg et al (2012)	2.3	32.3	From DSS apparatus
Den Haan & Grognet (2014)	-	37.4	From large DSS apparatus
O'Kelly & Zhang (2013)	0	28.9 to 30.3	Tests carried out on reconstituted, undisturbed and blended peat samples



7.2 Analysis to Determine Factor of Safety (Deterministic Approach)

The purpose of the analysis was to determine the Factor of Safety (FoS) of the peat slopes using infinite slope analysis. The analysis was carried out at the turbine locations, along the proposed access tracks and at various locations across the Proposed Wind Farm.

The FoS provides a direct measure of the degree of stability of the slope. A FoS of less than unity indicates that a slope is unstable, a FoS of greater than unity indicates a stable slope.

The previous code of practice for earthworks BS 6031:1981 (BSI, 1981), provided advice on design of earthworks slopes. It stated that for a first-time failure with a good standard of site investigation the design FoS should be greater than 1.3. For a conservative assessment, a minimum FoS of 1.3 has been used on this project.

As a general guide the FoS limits for peat slopes in this report are summarised in Table 7.2.

Table 7.2: Factor of Safety Limits for Slopes

Factor of Safety (FoS)	Degree of Stability
Less than 1.0	Unstable (red)
Between 1.0 and 1.3	Marginally stable (yellow)
1.3 or greater	Acceptable (green)

Eurocode 7 (EC7) (IS EN 1997-1:2005) now serves as the reference document and the basis for design geotechnical engineering works. The design philosophy used in EC7 applies partial factors to soil parameters, actions and resistances. Unlike the traditional approach, EC7 does not provide a direct measure of stability, since global Factors of Safety are not used.

As such, and in order to provide a direct measure of the level of safety on a site, EC7 partial factors have not been used in this stability assessment. The results are given in terms of FoS.

A lower bound undrained shear strength, c_u for the peat of 6kPa was selected for the assessment based on the c_u values recorded at the Proposed Wind Farm. It should be noted that a c_u of 6kPa for the peat is considered a conservative value for the analysis and is not representative of all peat present across the Proposed Wind Farm. In reality the peat generally has a higher undrained strength.

The formula used to determine the factor of safety for the undrained condition in the peat (Bromhead, 1986) is as follows:

$$F = \frac{c_u}{\gamma \sin \alpha \cos \alpha}$$

Where:

- F = Factor of Safety
- c_u = Undrained strength
- γ = Bulk unit weight of material



z = Depth to failure plane assumed as depth of peat
 α = Slope angle

The formula used to determine the factor of safety for the drained condition in the peat (Bromhead, 1986) is as follows:

$$F = \frac{c' + (\gamma - \gamma_w h_w) \cos^2 \alpha \tan \phi'}{\gamma \sin \alpha \cos \alpha}$$

Where:

F = Factor of Safety
 c' = Effective cohesion
 γ = Bulk unit weight of material
 z = Depth to failure plane assumed as depth of peat
 γ_w = Unit weight of water
 h_w = Height of water table above failure plane
 α = Slope angle
 ϕ' = Effective friction angle

For the drained analysis the level of the water table above the failure surface is required to calculate the factor of safety for the slope. Since the water level in blanket peat can be variable and can be recharged by rainfall, it is not feasible to establish its precise location throughout the Proposed Wind Farm. Therefore, a sensitivity analysis using water level ranging between 0% and 100% of the peat depth was conducted, where 0% equates to the peat being completely dry and 100% equates to the peat been fully saturated. Where a surcharge load is placed on top of the in-situ peat, this is not considered to be saturated, which can sometimes lead to an increase in the calculated Factor of Safety.

The following general assumptions were used in the analysis of peat slopes at each location:

- (1) Peat depths are based on the maximum peat depth recorded at each location from the walkover surveys.
- (2) The slope angles used in the peat stability assessment were obtained using a combination of readings taken during the site reconnaissance by FT using handheld equipment and from contour survey plans for site. It should be noted that slope angles derived from contour survey plans would be considered approximate, as such surveys are dependent on the density of survey data and do not always reflect local variations in ground topography.
- (3) Slope angle at base of sliding assumed to be parallel to ground surface.
- (4) A lower bound undrained shear strength, c_u for the peat along access tracks of 6kPa was selected for the assessment. The lowest recorded value on the Proposed Wind Farm during the site walkovers was 3kPa, in a localised area of deep peat where no development is proposed. It should be noted that a c_u of 6kPa for the peat is considered a conservative value for the analysis and is not representative of all peat present across the Proposed Wind Farm. In reality, the peat has a significantly higher undrained strength as a result of the artificial drainage present across the Proposed Wind Farm.

For the stability analysis two load conditions were examined, namely:



- Condition (1): no surcharge loading
 Condition (2): surcharge of 10 kPa, equivalent to 1m of stockpiled peat assumed as a worst case. For peat and spoil management areas, a worst case of 12.5kPa (1.25m of material) has been analysed.

7.3 Results of Analysis

7.3.1 Undrained Analysis for the Peat

The results of the undrained analysis for the natural peat slopes are presented in Appendix C and the results of the undrained analysis for the most critical load case (load condition 2) are shown on Drawing P23-240-0600-0007 and 0008. The undrained analysis for load condition 2 is considered the most critical load case as most peat failures occur in the short term upon loading of the peat surface. The results from the main infrastructure locations, including along access tracks and in areas of peat placement, are summarised in Table 7.3 to 7.5.

The calculated FoS for load condition 1 is in excess of 1.30 for each of the locations (287 no. locations) analysed with a range of FoS of 2.01 to 86.22, indicating a low risk of peat instability.

The calculated FoS for load condition 2 is in excess of 1.30 for each of the locations (287 no. locations), analysed with a range of FoS of 1.40 to 13.75, indicating a low risk of peat instability.

Table 7.3: Factor of Safety Results (Undrained Condition)

Turbine No./Waypoint	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T01	543507	826746	4.32	2.66
T02	543440	827861	2.39	1.69
T03	543602	826404	3.29	2.23
T04	543655	827452	2.56	1.87
T05	543940	826035	3.14	2.16
T06	544012	828489	3.83	2.87
T07	544519	828995	4.92	1.84
T08	545257	828620	8.71	2.90
T09	545425	828224	2.95	1.48
T10	546041	828377	17.24	5.75
T11	546688	828662	4.84	2.29
T12	547273	828804	4.31	2.87
T13	547412	829297	14.35	6.38
T14	547754	828352	2.75	1.86
T15	548292	828210	2.92	1.59
T16	548570	827462	2.43	1.49



Turbine No./Waypoint	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T17	548194	827756	2.90	1.74
Substation	543642	828912	4.65	2.31
Construction Compound (1)	544224	826048	3.75	2.61
Construction Compound (2)	547440	828280	2.38	1.77
Construction Compound (3)	545217	829009	17.28	4.94
Construction Compound (SS)	543562	828967	7.65	4.59
Borrow Pit 1	545803	828206	12.76	6.04
Borrow Pit 2	547749	828412	2.95	1.48
Borrow Pit 3	548009	828152	6.22	1.44
Biodiversity Enhancement Area	545131	827941	2.61	2.01

Table 7.4: Factor of Safety Results along Access Tracks (Undrained Condition)

Turbine No./Waypoint	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T01 to T03	Varies		6.46	3.31
T03 to T05	Varies		3.46	2.22
T02 to T04	Varies		3.48	2.67
Spur to Substation	Varies		5.75	3.45
Spur to T07	Varies		17.24	5.75
T07 to T06	Varies		2.07	1.46
Entrance to T08	Varies		9.71	2.77
T08 to T09	Varies		21.56	6.16
T09 to T10	Varies		10.78	4.79
T10 to T11	Varies		8.77	2.51
T11 to T12	Varies		8.77	2.51
T12 to T13	Varies		2.70	1.53
T12 to T14	Varies		2.95	1.48
T14 to T15	Varies		2.95	1.48
T14 to T17	Varies		10.88	3.11
T16 to T17	Varies		2.48	1.65



Table 7.5: Factor of Safety Results Peat and Spoil Management Areas (Undrained Condition)

Location	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T01	543588	826595	4.07	2.34
T02	543525	827750	5.22	3.33
T03	543670	826300	3.59	2.36
T04	543630	827560	5.74	3.53
T06	544000	828460	2.87	2.03
T10	546075	828351	17.54	2.42
T11	546713	828636	8.27	2.68
T12	547367	828699	2.29	1.77
T13	547410	839330	3.59	2.58
T17	548237	827786	3.85	2.10
Substation	543675	828917	4.31	2.65

7.3.2 Drained Analysis for the Peat

The results of the drained analysis for the peat are presented in Appendix C. The results from the main infrastructure locations, including along access tracks and in areas of peat placement are summarised in Table 7.6 to 7.8. As stated previously, the drained loading condition examines the effect of rainfall and water on the existing stability of the natural peat slopes.

The calculated FoS for load condition 1 is in excess of 1.30 for each of the locations (287 no. locations) analysed with a range of FoS of 1.34 to 64.15, indicating a low risk of peat instability

The calculated FoS for load condition 2 is in excess of 1.30 for each of the locations (287 no. locations) analysed with a range of FoS of 1.94 to 19.86, indicating a low risk of peat instability.

Table 7.6: Factor of Safety Results (Drained Conditions)

Turbine No./Waypoint	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T01	543507	826746	2.88	3.82
T02	543440	827861	12.09	11.15
T03	543602	826404	7.52	6.82
T04	543655	827452	7.04	6.58
T05	543940	826035	7.67	7.01



Turbine No./Waypoint	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T06	544012	828489	12.27	11.64
T07	544519	828995	5.78	3.73
T08	545257	828620	9.75	5.88
T09	545425	828224	4.68	3.70
T10	546041	828377	20.09	12.42
T11	546688	828662	7.67	5.97
T12	547273	828804	12.16	11.20
T13	547412	829297	22.44	17.12
T14	547754	828352	8.49	7.90
T15	548292	828210	6.07	5.18
T16	548570	827462	6.38	5.75
T17	548194	827756	7.49	6.72
Substation	543642	828912	9.54	8.44
Construction Compound (1)	544224	826048	9.17	8.41
Construction Compound (2)	547440	828280	6.92	6.51
Construction Compound (3)	545217	829009	16.85	8.62
Construction Compound (SS)	543562	828967	14.00	11.96
Borrow Pit 1	545803	828206	17.40	12.93
Borrow Pit 2	547749	828412	4.16	3.18
Borrow Pit 3	548009	828152	5.43	2.24
Biodiversity Enhancement Area	545131	827941	1.74	2.89

Table 7.7: Factor of Safety Results along Access Tracks (Drained Condition)

Turbine No./Waypoint	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T01 to T03	Varies		2.56	3.55
T03 to T05	Varies		2.13	3.36
T02 to T04	Varies		2.32	4.13
Spur to Substation	Varies		3.83	4.97
Spur to T07	Varies		5.78	3.73
T07 to T06	Varies		1.38	2.09
Entrance to T08	Varies		6.47	3.95



Turbine No./Waypoint	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T08 to T09	Varies		14.37	8.87
T09 to T10	Varies		7.19	6.90
T10 to T11	Varies		5.85	3.56
T11 to T12	Varies		5.85	3.56
T12 to T13	Varies		1.66	2.96
T12 to T14	Varies		1.97	2.08
T14 to T15	Varies		1.97	2.08
T14 to T17	Varies		1.65	2.37
T16 to T17	Varies		7.25	6.68

Table 7.8: Factor of Safety Results Peat and Spoil Management Areas (Drained Condition)

Location	Easting	Northing	Factor of Safety for Load Condition	
			Condition (1)	Condition (2)
T01	543588	826595	2.71	3.82
T02	543525	827750	3.48	5.44
T03	543670	826300	2.40	3.86
T04	543630	827560	3.83	5.78
T06	544000	828460	1.92	3.31
T10	546075	828351	11.70	3.89
T11	546713	828636	5.51	4.35
T12	547367	828699	1.53	2.90
T13	547410	839330	2.39	4.22
T17	548237	827786	2.57	3.42
Substation	543675	828917	2.87	4.33

7.4 Stability of Borrow Pits

A stability check has been undertaken to demonstrate the stability of the proposed spoil backfill in Borrow Pit 2 and 3. An analysis has not been undertaken for Borrow Pit 1, as all material to be stored at that location will be below the existing ground level, and as such is considered stable. Slope stability has been checked using SlopeW © slope stability software. The analysis was carried out to Eurocode 7 (EC7) design standards. The design philosophy used in EC7 applies partial factors to soil parameters, actions and resistances. Unlike the traditional approach, EC7 does not provide a direct measure of stability, since global Factors of Safety are not



used. Rather, it provides a result in terms of an overdesign ratio (ODR), where an ODR of >1 is stable, and an ODR of <1 is unstable.

The following material properties have been used in the stability assessment. A low shear strength for the peat retained within the borrow pit/repositories has been used to model the effect of disturbance on the saturated peat mass.

Table 7.9: Material Properties

Material	Unit Weight (kN/m ³)	Undrained Shear Strength, c_u (kPa)	Angle of Shearing Resistance, ϕ (degrees)	Effective Cohesive, c' (kPa)
Intact Peat	10.5	8	25	4
Granular fill (berm)	21	-	45	0
Retained Spoil within Borrow Pit (disturbed)	18	30	26	0
Granular Glacial	20	-	32	0
Weathered Bedrock	21	-	34	-

Bedrock has been assessed at 1.5m below ground level based on the available ground investigation information, overlain by 0.5m of peat and 1.0m of Granular Glacial deposits. The spoil backfill will be placed with a finished slope of 10 degrees. Groundwater has been assumed at ground level on the downslope side of the borrow pit.

The stability analysis has been undertaken using both undrained (short term) and drained (long term) strength parameters, and the results demonstrate the stability of the proposed berm.

Table 7.10: Borrow Pit Stability Analysis

Location	Analysis	ODR	
		DA1C1	DA1C2
Borrow Pit 2	Undrained Analysis	3.86	2.73
	Drained Analysis	3.35	2.65
Borrow Pit 3	Undrained Analysis	4.07	2.95
	Drained Analysis	3.53	2.86



8. PEAT STABILITY RISK ASSESSMENT

A peat stability risk assessment was carried out for the infrastructure elements for the Proposed Project. This approach adheres to best practice guidance for geotechnical/peat stability risk assessments as given in PLHRA (2017) and MacCulloch (2005).

The risk assessment uses the results of the stability analysis (deterministic approach) in combination with qualitative factors, which cannot be reasonably included in a stability calculation but nevertheless may affect the occurrence of peat instability, to assess the risk for each infrastructure element.

For each of the main infrastructure elements, a risk rating (product of probability and impact) is calculated and rated as shown in Table 8.1. Where a subsection is rated 'Medium' or 'High', control measures are required to reduce the risk to at least a 'Low' risk rating. Where a subsection is rated 'Low' or 'Negligible', only routine control measures are required.

Table 8.1: Risk Rating Legend

17 to 25	High: avoid works in area or significant control measures required
11 to 16	Medium: notable control measures required
5 to 10	Low: only routine control measures required
1 to 4	Negligible: none or only routine control measures required

A full methodology for the peat stability risk assessment is given in Appendix E.

8.1 Summary of Risk Assessment Results

The results of the peat stability risk assessment for potential peat failure at the infrastructure elements is presented as a Geotechnical Risk Register in Appendix B and summarised in Table 8.2.

The risk rating for each infrastructure element at the Proposed Project is designated Negligible or Low following some mitigation/control measures being implemented. Sections of access tracks to the nearest infrastructure element will be subject to the same mitigation/control measures that apply to the nearest infrastructure element. Within the Biodiversity Enhancement Area, no stump flipping will be undertaken, only drain blocking, and therefore there will be no significant disturbance to the in-situ peat. As such no notable control measures are proposed for this area.

Details of the required infrastructure specific mitigation/control measures can be found in the Geotechnical Risk Register for each infrastructure element (Appendix B), and the general (not notable) infrastructure specific control measures are summarised below.

- Detailed ground investigation to confirm peat, mineral soil and bedrock condition and properties.
- Use of experienced geotechnical staff for confirmatory site investigation.
- Maintain hydrology of area as far as possible by maintaining the flow of water in existing drains to prevent the build-up of water pressures in the peat, leading to the peat becoming "buoyant".
- Use of contractors with experience in working peat and trained operators to carry out the work.



Table 8.2: Summary of Peat Stability Risk Register

Infrastructure	Pre-Control Measure Implementation Risk Rating	Pre-Control Measure Implementation Risk Rating Category	Notable Control Measures Required	Post-Control Measure Implementation Risk Rating	Post-Control Measure Implementation Risk Rating Category
T01	Negligible	1 to 4	No	Negligible	1 to 4
T02	Negligible	1 to 4	No	Negligible	1 to 4
T03	Negligible	1 to 4	No	Negligible	1 to 4
T04	Negligible	1 to 4	No	Negligible	1 to 4
T05	Negligible	1 to 4	No	Negligible	1 to 4
T06	Low	5 to 10	No	Low	5 to 10
T07	Negligible	1 to 4	No	Negligible	1 to 4
T08	Low	5 to 10	No	Low	5 to 10
T09	Negligible	1 to 4	No	Negligible	1 to 4
T10	Negligible	1 to 4	No	Negligible	1 to 4
T11	Negligible	1 to 4	No	Negligible	1 to 4
T12	Negligible	1 to 4	No	Negligible	1 to 4
T13	Low	5 to 10	No	Negligible	1 to 4
T14	Negligible	1 to 4	No	Negligible	1 to 4
T15	Negligible	1 to 4	No	Negligible	1 to 4
T16	Low	5 to 10	No	Low	5 to 10
T17	Low	5 to 10	No	Low	5 to 10
Substation	Negligible	1 to 4	No	Negligible	1 to 4
Construction Compound (1)	Low	5 to 10	No	Negligible	1 to 4
Construction Compound (2)	Low	5 to 10	No	Low	5 to 10
Construction Compound (3)	Low	5 to 10	No	Low	5 to 10
Construction Compound (SS)	Negligible	1 to 4	No	Negligible	1 to 4
Borrow Pit 1	Negligible	1 to 4	No	Negligible	1 to 4
Borrow Pit 2	Negligible	1 to 4	No	Negligible	1 to 4
Borrow Pit 3	Low	5 to 10	No	Negligible	1 to 4
Road T01 to T03	Negligible	1 to 4	No	Negligible	1 to 4



Road T02 to T04	Negligible	1 to 4	No	Negligible	1 to 4
Road T03 to T05	Medium	11 to 16	No	Low	5 to 10
Spur to Substation	Low	5 to 10	No	Low	5 to 10
Spur to T07	Low	5 to 10	No	Low	5 to 10
Road T06 to T07	Negligible	1 to 4	No	Negligible	1 to 4
Spur to T08	Low	5 to 10	No	Low	5 to 10
Road T08 to T09	Negligible	1 to 4	No	Negligible	1 to 4
Road T09 to T10	Negligible	1 to 4	No	Negligible	1 to 4
Road T10 to T11	Negligible	1 to 4	No	Negligible	1 to 4
Road T11 to T12	Negligible	1 to 4	No	Negligible	1 to 4
Road T12 to T13	Medium	11 to 16	No	Low	5 to 10
Road T12 to T14	Negligible	1 to 4	No	Negligible	1 to 4
Road T14 to T15	Negligible	1 to 4	No	Negligible	1 to 4
Road T14 to T17	Medium	11 to 16	No	Low	5 to 10
Road T16 to T17	Low	5 to 10	No	Low	5 to 10
Peat Management Area T01	Negligible	1 to 4	No	Negligible	1 to 4
Peat Management Area T02	Negligible	1 to 4	No	Negligible	1 to 4
Peat Management Area T03	Low	5 to 10	No	Low	5 to 10
Peat Management Area T04	Low	5 to 10	No	Negligible	1 to 4
Peat Management Area T06	Negligible	1 to 4	No	Negligible	1 to 4
Peat Management Area T10	Negligible	1 to 4	No	Negligible	1 to 4
Peat Management Area T11	Negligible	1 to 4	No	Negligible	1 to 4
Peat Management Area T12	Negligible	1 to 4	No	Negligible	1 to 4
Peat Management Area T13	Low	5 to 10	No	Low	5 to 10
Peat Management Area T17	Low	5 to 10	No	Low	5 to 10
Peat Management Area Substation	Negligible	1 to 4	No	Negligible	1 to 4



Biodiversity Enhancement Area	Medium	11 to 16	No	Low	5 to 10
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9. INDICATIVE FOUNDATION TYPE AND FOUNDATION DEPTH FOR TURBINES

9.1 Summary

Based on a review of the ground investigation information for the Proposed Wind Farm, an assessment of the likely foundation type and founding depths for each turbine location was carried out. A summary of this assessment is provided in Table 9.1. A typical founding depth for a gravity foundation is taken as 4m. Where ground conditions indicate that a gravity base is not suitable, a piled solution is considered.

Table 9.1: Summary of Proposed Turbine Foundation Type and Founding Depths

Turbine No.	Proposed Turbine Foundation Type	Relevant GI	Proposed founding depth (m bgl)	Ground Conditions
T01	Gravity/Piled foundation	TPT01/peat probes	>3.0	Topsoil and firm Clay to 0.5m, underlain by Sand and Gravel to 2.2m, and soft slightly sandy gravelly Silt to 3.0m (base of trial pit).
T02	Gravity foundation	TPT02/peat probes	4.0	Peat to 1.1m underlain by silty Sand and Gravel to 3.3m (base of trial pit).
T03	Gravity/Piled foundation	TPT03/peat probes	>3.0	Peat to 1.9m (base of trial pit).
T04	Gravity/Piled foundation	TPT04/peat probes	>3.0	Peat to 1.4m underlain by silty Sand and Gravel to 1.8m (base of trial pit).
T05	Gravity/Piled foundation	TPT07/peat probes	>3.0	Peat to 2.3m.
T06	Gravity/Piled foundation	Peat probes	>3.0	Peat to 3.0m.
T07	Gravity foundation	TPT08/Peat probes	4.0	Topsoil and firm Clay to 0.4m underlain by soft slightly sandy gravelly Silt to 2.1m (base of trial pit).
T08	Gravity foundation	TPT10/Peat probes	4.0	Made Ground to 0.9m underlain by stiff slightly sandy gravelly Silt to 1.6m and silty Sand and gravel to 2.7m (base of trial pit)
T09	Gravity foundation	TPT11/Peat probes	4.0	Made Ground to 0.4m (base of trial pit)
T10	Gravity foundation	Peat probes	4.0	Peat to 0.5m.
T11	Gravity foundation	TPT13/Peat probes	4.0	Stiff Silt to 1.6m underlain by silty Sand and Gravel to 3.2m (base of trial pit).
T12	Gravity foundation	TPT14A/Peat probes	4.0	Peat to 2.0m underlain by silty Sand and Gravel to 2.5m (base of trial pit).



Turbine No.	Proposed Turbine Foundation Type	Relevant GI	Proposed founding depth (m bgl)	Ground Conditions
T13	Gravity foundation	Peat probes	4.0	Peat to 1.0m.
T14	Gravity foundation	Peat probes	4.0	Peat to 2.1m.
T15	Gravity foundation	TPT17/Peat probes	4.0	Weathered rock to 0.5 bgl (base of trial pit)
T16	Gravity foundation	TPT18/Peat probes	4.0	Angular Gravel and Boulders to 2.5m (base of trial pit).
T17	Gravity foundation	Peat probes	4.0	Peat to 1.5m.

It should be noted that confirmatory ground investigation will be carried out prior to construction at each turbine location in the form of a borehole with in-situ SPT testing in the overburden and follow-on rotary core through bedrock to confirm the foundation types and founding strata assumed in Table 9.1. Based on professional judgement it is likely that following the completion of confirmatory ground investigation prior to construction that all of the turbine bases will be deemed suitable for gravity type foundations.

For gravity type turbine foundations, where the depth of excavation exceeds the required founding depth (typically 4.0m) for the proposed turbine base, up-fill material consisting of granular fill (6N) will be used to backfill the excavation to the required founding depth.



10. FOUNDING DETAILS FOR INFRASTRUCTURE ELEMENTS (EXCEPT TURBINES)

This section provides a summary of the founding details for various elements of the proposed infrastructure across the Proposed Project. The detailed methodologies for the construction of these elements of the Proposed Project are included in Chapter 4 of the EIAR.

10.1 Access Tracks

The access tracks on the Proposed Wind Farm will mainly be constructed as excavate and replace (founded) type construction, which, given the ground conditions and type of terrain present, is deemed the most appropriate construction approach. Floating road construction will be undertaken in limited areas within the Proposed Project, in locations where the slope angle is less than 3 degrees, in the open bog area in the western section of the Proposed Wind Farm.

The total length of new proposed access track to be constructed on the Proposed Wind Farm is 5.1km (see Drawing P23-230-0600-0005 and 0006 of the Peat and Spoil Management Plan – Appendix 8-2 of the EIAR). A further 8.2km of existing access track will be upgraded.

The proposed make-up of the founded access tracks is anticipated to be a minimum stone thickness of 500mm. The requirement for a layer of geotextile and geogrid and the necessary stone thickness will be confirmed at pre-construction stage.

See the Peat & Spoil Management Plan (FT, 2026) for the Proposed Project for further details on the proposed access tracks on the Proposed Wind Farm.

10.2 Crane Hardstands

The crane hardstands will be constructed using the founded technique (i.e. not floated) technique.

Crane hardstands are constructed using compacted Class 1/6F material on a suitable sub-formation to achieve the required bearing resistance. The hardstands will be designed for the most critical loading combinations from the crane.

The hardstands will be founded on competent material underlying the peat deposits. The founding levels for the hardstands will be variable across the Proposed Wind Farm and will be confirmed at pre-construction stage.

The make-up of the hardstands will include a minimum of 1000mm of granular stone fill with a layer of geotextile and/or geogrid, if deemed necessary by the Designer.

10.3 Substation Foundations & Platforms

The substation platform will be constructed using the founded technique (i.e. not floated technique). The substation foundations will comprise strip/raft foundations under the main footprint of the building with a basement/pit for cable connections.

Substation platforms are constructed using compacted Class 1/6F material on a suitable sub-formation to achieve the required bearing resistance.



The substation platform will be founded on competent material underlying the peat deposits.

Given the ground conditions present across the Proposed Wind Farm, the foundations will be founded on firm glacial till or medium dense granular material. The founding depth for the substation platform will be 1.0-2.0m.

The make-up of the substation platform will include a minimum of 1000mm of granular stone fill with a layer of geotextile and/or geogrid if deemed necessary by the Designer. At the underside of the substation foundations, a layer of structural up-fill (class 6N) will be required.

10.4 Construction Compound Platforms

The construction compound platforms will be constructed using either the floating or the founded construction technique.

The construction compound platforms are constructed using compacted Class 1/6F material on a suitable sub-formation to achieve the required bearing resistance.

The founded construction compound platforms will be founded on material underlying the peat deposits. Founding depth for construction compound platforms will require excavations from 0.5m to 1.0m bgl.

The typical make-up of the founded construction compound platform will include up to 750mm of granular stone fill with possibly a layer of geotextile and/or geogrid. Alternatively, the compounds may be floated, with a stone thickness of 1000mm with at least one layer of reinforcing geogrid.

10.5 Peat and Spoil Management Areas

A number of peat and spoil management areas were reviewed as part of the assessment of the Proposed Project. These are located within clear fell area around a number of the turbines in the Proposed Project and in areas of open worked bog in the western portion of the Proposed Wind Farm. The placement of peat in these areas will be limited to a maximum of 1.25m in height, and the stability of these areas is covered under load condition 2 at these locations as reported in Section 7 of this report.

Additional discussion of the peat placement areas is provided in the Peat and Spoil Management Plan (FT, 2026) for the Proposed Project.



11. SUMMARY AND MEASURES

11.1 Summary

FT was engaged by MKO to undertake a geotechnical and peat stability assessment of the Proposed Wind Farm.

The findings of the peat assessment showed that the Proposed Wind Farm has an acceptable margin of safety and is suitable for the Proposed Project. The findings include recommendations and control measures for construction work in peat lands, all of which will be implemented in full to ensure that all works adhere to an acceptable standard of safety.

The Proposed Wind Farm, which comprises undulating terrain consists predominantly of blanket peat, cutover peat and forestry is located on the northwest slopes of the Ox Mountains, located approx. 4.5km south of the village of Dromore West, and approx. 3km southwest of the village of Templeboy in Co. Sligo.

Peat thicknesses recorded during the site walkovers from 850 probes ranged from 0.0 to 7.2m with an average depth of 1.15m. 75% of the probes recorded peat depths of less than 2.0m. 90% of peat depth probes recorded peat depths of less than 3.0m. A number of localised readings were recorded with peat depths of 3.0 to 7.2m. The deeper peat areas were avoided, where possible, when optimising the wind farm layout for the Proposed Wind Farm.

Slope inclinations at the main infrastructure locations range from 2 to 7 degrees.

An analysis of peat sliding was carried out at the main infrastructure locations across the Proposed Project for both the undrained and drained conditions. The purpose of the analysis was to determine the Factor of Safety (FoS) of the peat slopes.

An undrained analysis was carried out, which applies in the short-term during construction. For the undrained condition, the calculated FoS for load conditions 1 and 2 for the locations analysed, showed that all locations have an acceptable FoS of greater than 1.3, indicating a low risk of peat failure. The undrained analysis would be considered the most critical condition for the peat slopes.

A drained analysis was also carried out, which examined the effect of in particular, rainfall on the existing stability of the natural peat slopes on the Proposed Wind Farm. For the drained condition, the calculated FoS for load conditions (1) & (2) for the locations analysed, showed that all locations have an acceptable FoS of greater than 1.3.

The peat stability risk assessment at each infrastructure location, along access tracks, in peat placement areas and at settlement pond locations identified a number of mitigation/control measures to reduce the potential risk of peat failure. See Appendix B for details of the required mitigation/control measures for each infrastructure element.

In summary, the findings of the peat assessment showed that the Proposed Project has an acceptable margin of safety, is suitable for the proposed wind farm development and is considered to be at **low** risk of peat failure provided appropriate control measures, such as implementing and maintaining an appropriate drainage system are implemented. The findings include mitigation/control measures for construction work in peat lands, all of which will be implemented in full to ensure that all works adhere to an acceptable standard of safety.



11.2 Measures

The following measures will be implemented in full.

Notwithstanding that the Proposed Wind Farm has an acceptable margin of safety a number of mitigation/control measures are prescribed to ensure that all works adhere to an acceptable standard of safety for work in peatlands. Mitigation/control measures identified for each of the infrastructure elements in the risk assessment will be implemented throughout design and construction works (Appendix B).

The proposed construction method for the majority of the new proposed access tracks at the Proposed Wind Farm is excavate and replace type construction. Floating road construction will be undertaken in limited areas within the Proposed Project, in locations where the slope angle is less than 3 degrees.

The measures prescribed in FT's report 'Peat & Spoil Management Plan – Crumhach Wind Farm, County Sligo' (FT, 2026) will be implemented in full during the design and construction stage of the Proposed Project.

To minimise the risk of construction activity causing potential peat instability the Construction Method Statements (CMSs) for the project will be implemented in full but not be limited to the measures above. This will ensure that best practice guidance regarding the management of peat stability will be inherent in the construction phase.



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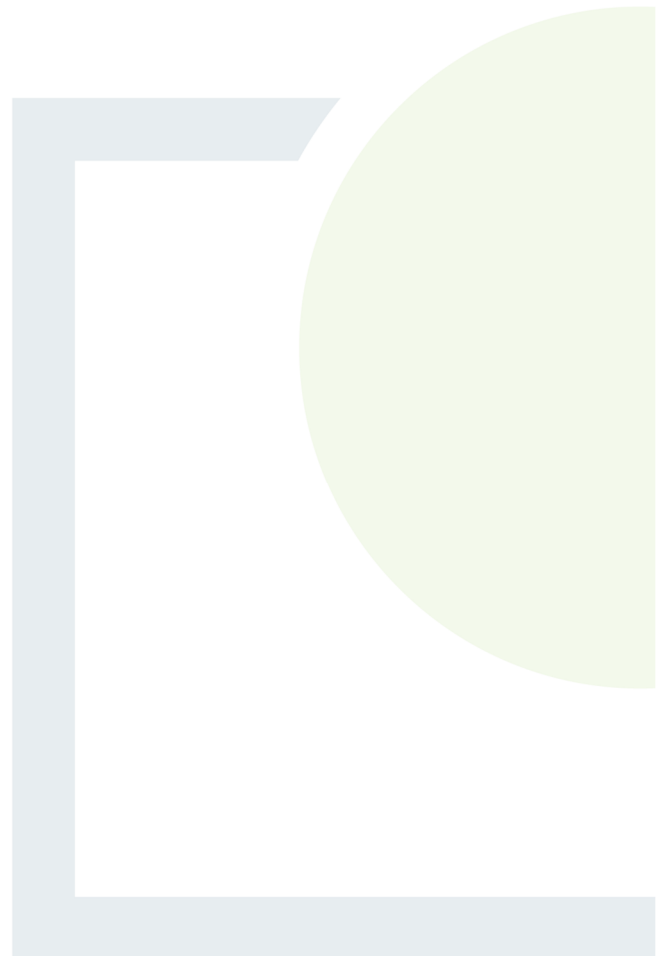
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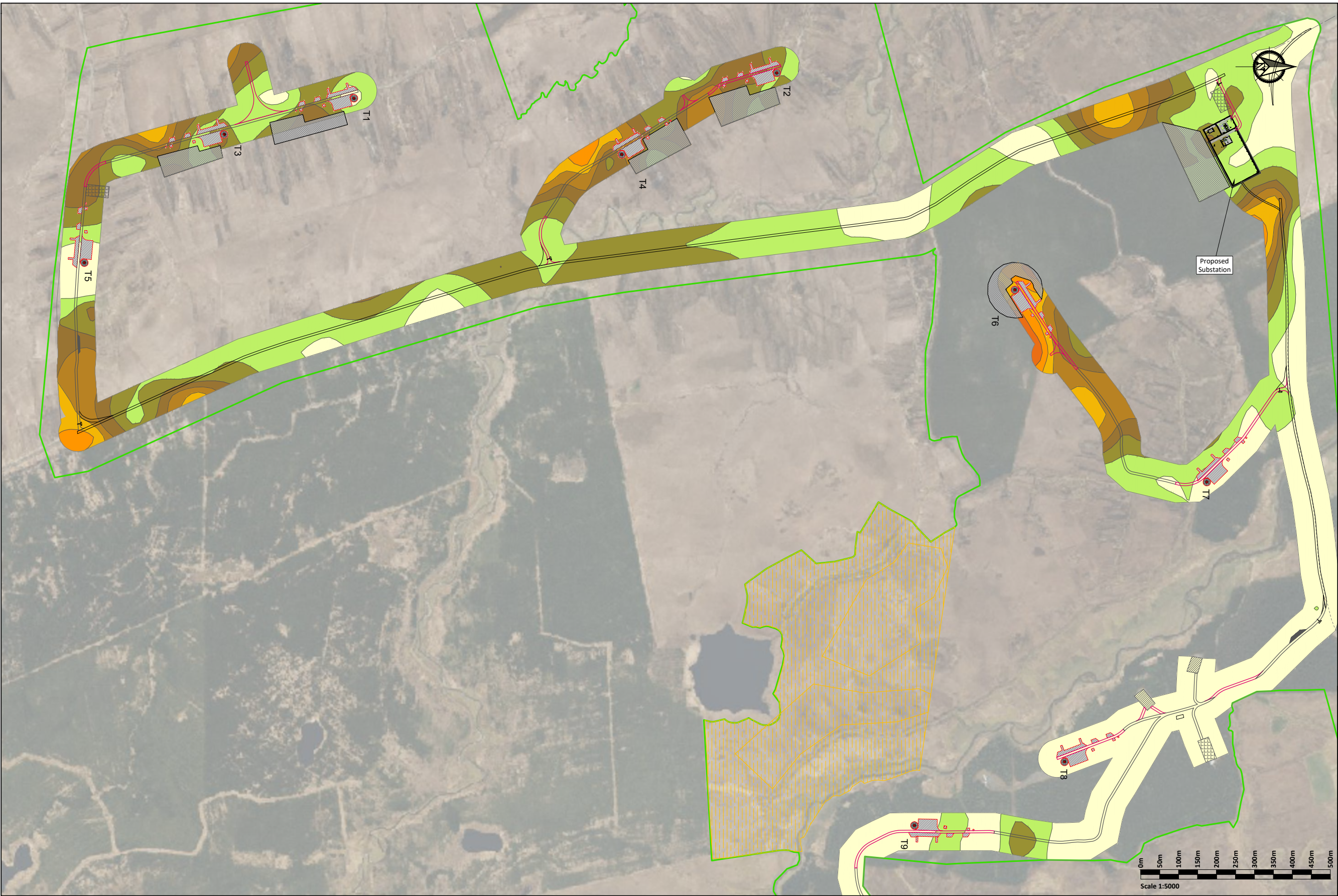
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DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

DRAWINGS





Legend:

- EIAR Study Boundary
- Proposed Turbine & Hardstanding
- Proposed Access Track
- Existing Access Track to be Upgraded
- Existing Access Tracks
- Proposed Passing Bay
- Proposed Temporary Compound
- Decommissioned Turbine Area
- Proposed Peat & Spoil Management Areas
- Proposed Borrow Pit
- Proposed Enhancement Area

Peat Depth Legend:

Lightest Yellow	$\geq 0 < 0.5$
Light Green	$\geq 0.5 < 1$
Medium Green	$\geq 1 < 1.5$
Dark Green	$\geq 1.5 < 2$
Light Brown	$\geq 2 < 2.5$
Medium Brown	$\geq 2.5 < 3$
Dark Brown	$\geq 3 < 3.5$
Orange	$\geq 3.5 < 4$
Red	$\geq 4 < 4.5$
Dark Red	$\geq 4.5 < 5$
Black	$\geq 5 < 5.5$
Dark Blue	$\geq 5.5 \leq 6$

KEYPLAN

Scale 1:100000

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PLAN

Scale 1:5000

KEYPLAN

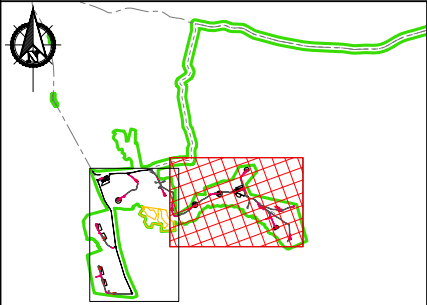
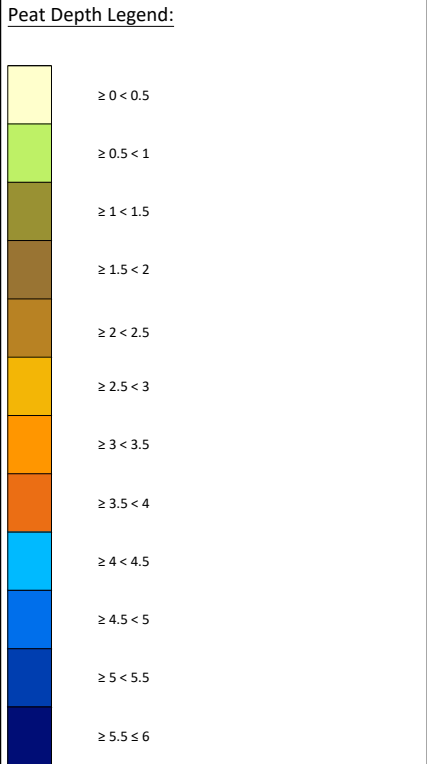
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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT		CLIENT		
CRUMHACH WIND FARM				
SHEET		Date	Project number	Scale (@ A1)
PEAT DEPTH CONTOUR PLAN		30.06.26	P23-240	1:5000
SHEET 1 OF 2		Drawn by	Drawing Number	Rev
		SK	P23-240-0600-0001	P02
		Checked by	IH	



- Legend:**
- EIAR Study Boundary
 - Proposed Turbine & Hardstanding
 - Proposed Access Track
 - Existing Access Track to be Upgraded
 - Existing Access Tracks
 - ▬ Proposed Passing Bay
 - ▬ Proposed Temporary Compound
 - ▬ Decommissioned Turbine Area
 - ▬ Proposed Peat & Spoil Management Areas
 - ▬ Proposed Borrow Pit
 - ▬ Proposed Enhancement Area



PLAN

Scale 1:5000

KEYPLAN

Scale 1:100000

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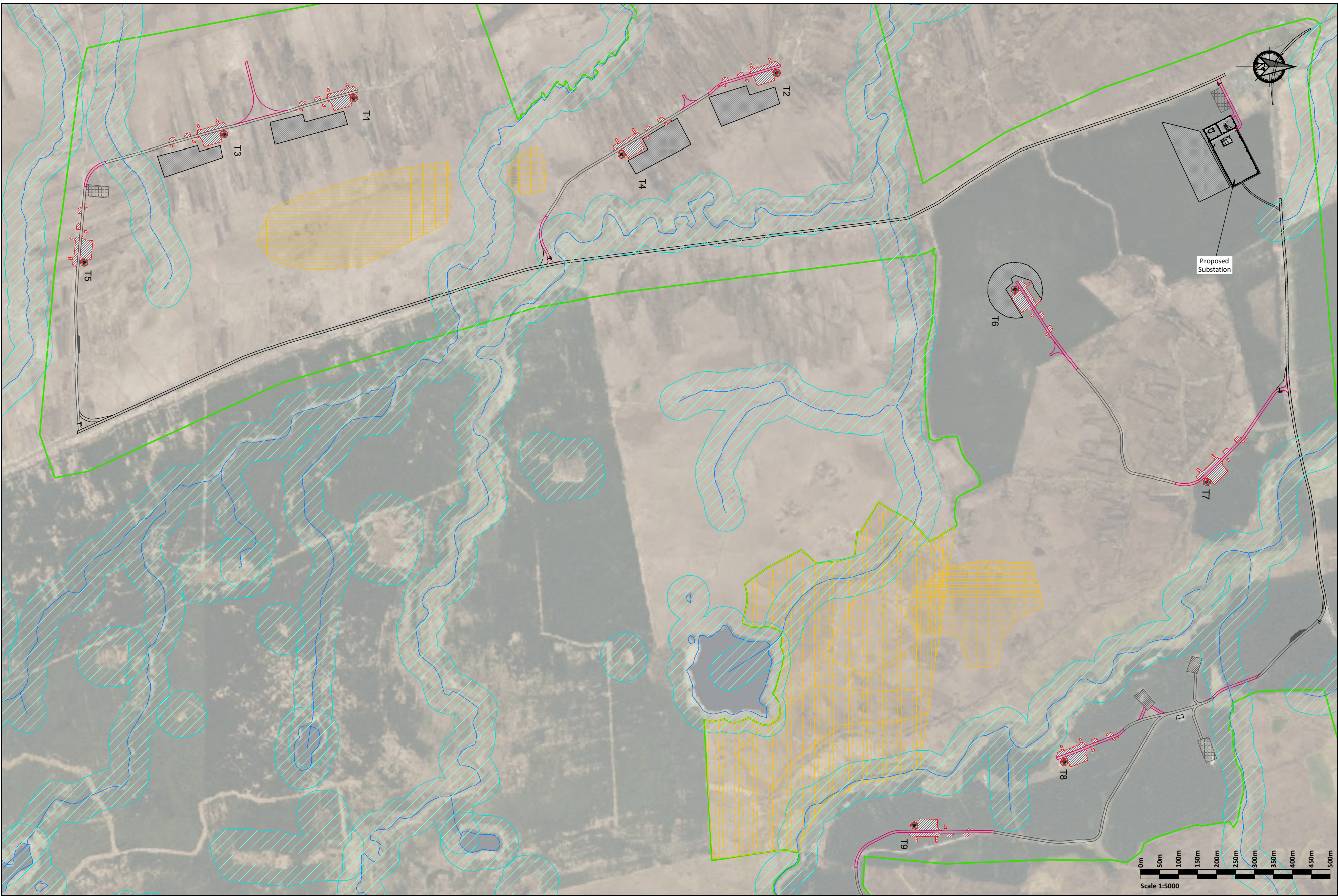
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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT		CLIENT		
CRUMHACH WIND FARM				
SHEET		Date	30.06.26	Project number
PEAT DEPTH CONTOUR PLAN		Drawn by	SK	P23-240
SHEET 2 OF 2		Checked by	IH	Drawing Number
				P23-240-0600-0002
				Scale (@ A1)
				1:5000
				Rev
				P02

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- Legend:**
- EIAR Study Boundary
 - Proposed Turbine & Hardstanding
 - Proposed Access Track
 - Existing Access Track to be Upgraded
 - Existing Access Tracks
 - Proposed Passing Bay
 - Proposed Temporary Compound
 - Decommissioned Turbine Area
 - Proposed Peat & Spoil Management Areas
 - Proposed Borrow Pit
 - Proposed Enhancement Area
 - Buffer zone to areas of deep, soft peat where appropriate design and construction controls will be required.
 - Watercourses / Lakes / Bog Pools with 50m Buffer



PLAN

Scale 1:5000

KEYPLAN

Scale 1:100000

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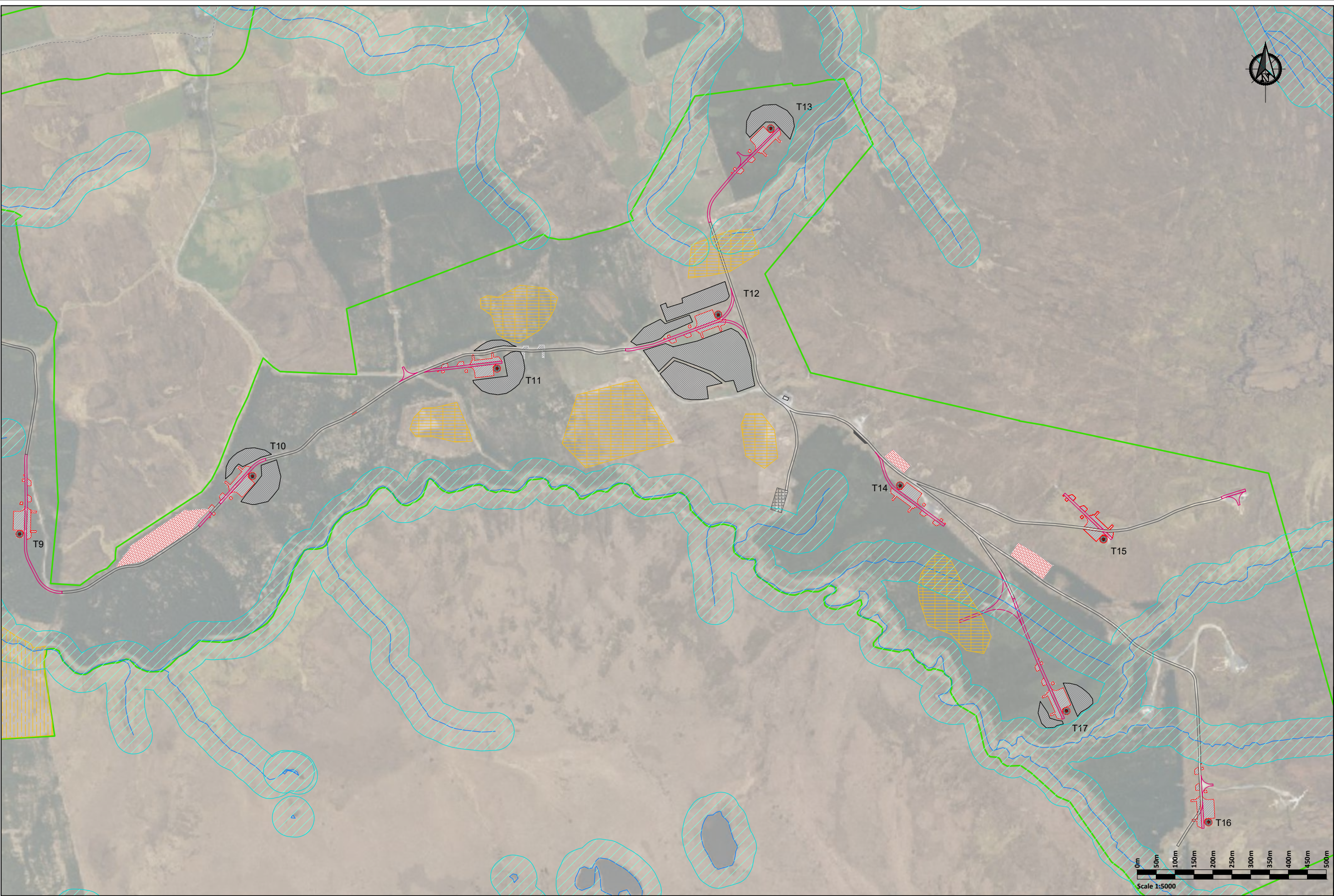
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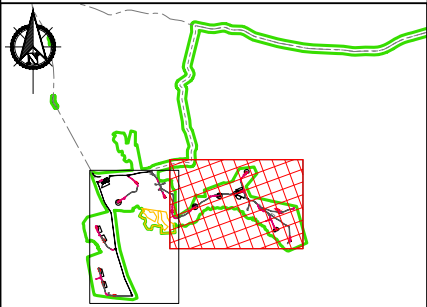
Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT		CLIENT		
CRUMHACH WIND FARM				
SHEET		Date	Project number	Scale (@ A1)
CONSTRUCTION BUFFER ZONE		30.06.26	P23-240	1:5000
SHEET 1 OF 2		Drawn by	Drawing Number	Rev
		SK	P23-240-0600-0003	P02
		Checked by	IH	

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- Legend:**
- EIAR Study Boundary
 - Proposed Turbine & Hardstanding
 - Proposed Access Track
 - Existing Access Track to be Upgraded
 - Existing Access Tracks
 - Proposed Passing Bay
 - Proposed Temporary Compound
 - Decommissioned Turbine Area
 - Proposed Peat & Spoil Management Areas
 - Proposed Borrow Pit
 - Proposed Enhancement Area
 - Buffer zone to areas of deep, soft peat where appropriate design and construction controls will be required.
 - Watercourses / Lakes / Bog Pools with 50m Buffer



PLAN

Scale 1:5000

KEYPLAN

Scale 1:100000

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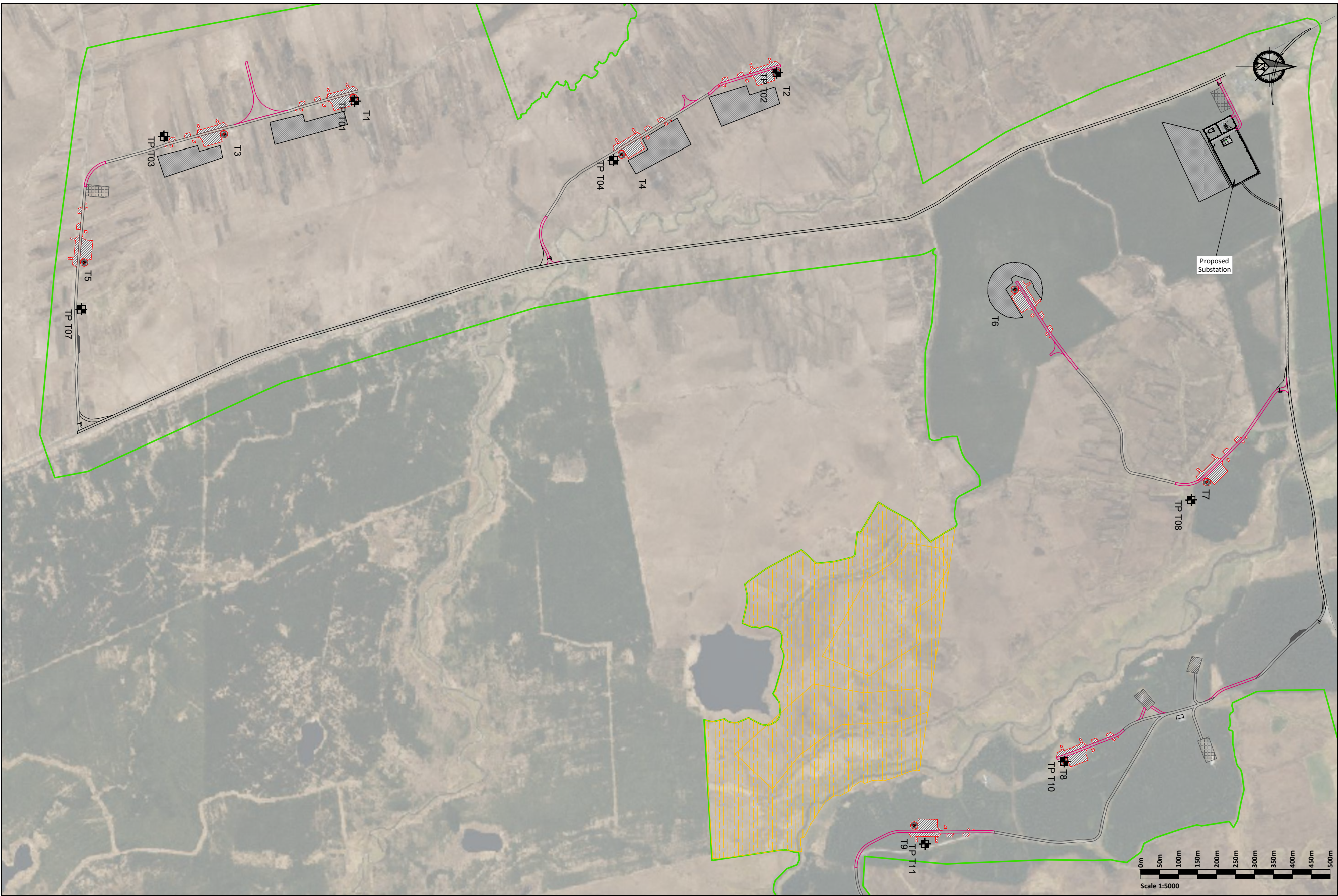
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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT		CLIENT		
CRUMHACH WIND FARM				
SHEET		Date	30.06.26	Project number
CONSTRUCTION BUFFER ZONE		Drawn by	SK	P23-240
SHEET 2 OF 2		Checked by	IH	Drawing Number
		P23-240-0600-0004		Rev
				P02

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- Legend:**
- EIAR Study Boundary
 - Proposed Turbine & Hardstanding
 - Proposed Access Track
 - Existing Access Track to be Upgraded
 - Existing Access Tracks
 - Proposed Passing Bay
 - Proposed Temporary Compound
 - Decommissioned Turbine Area
 - Proposed Peat & Spoil Management Areas
 - Proposed Borrow Pit
 - Proposed Enhancement Area
 - Location of Trial Pit



PLAN
Scale 1:5000

KEYPLAN
Scale 1:100000

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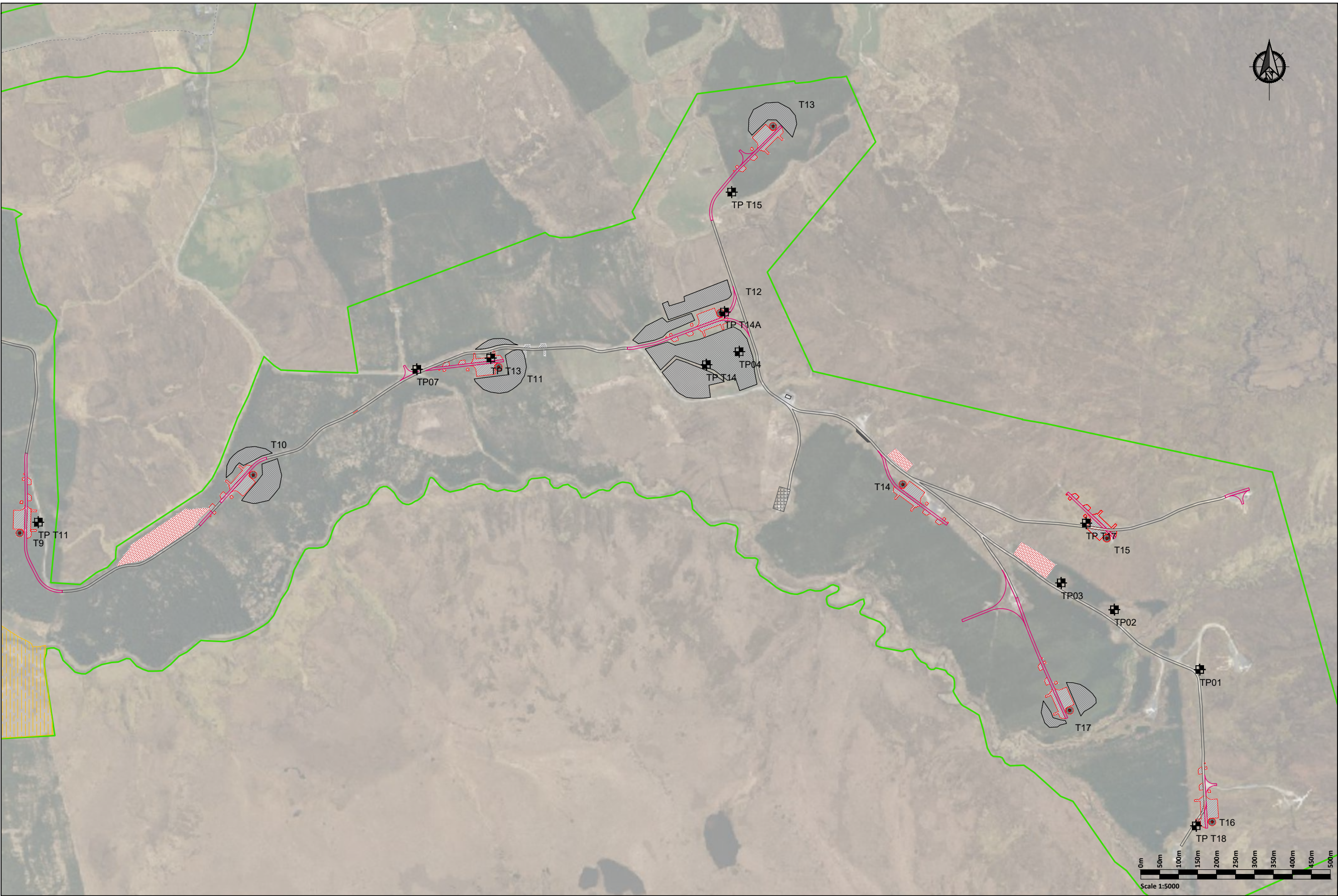
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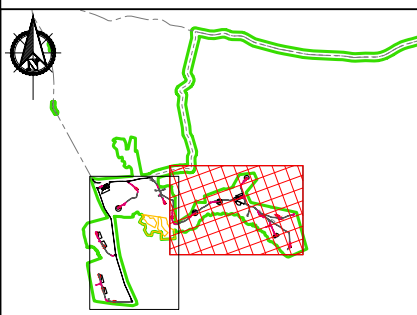
Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT		CLIENT		
CRUMHACH WIND FARM				
SHEET		Date	30.06.26	Project number
GROUND INVESTIGATION LOCATION PLAN SHEET 1 OF 2		Drawn by	SK	P23-240
		Checked by	IH	Drawing Number
		P23-240-0600-0005		Rev
		Scale (@ A1) 1:5000		P02

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- Legend:**
- EIAR Study Boundary
 - Proposed Turbine & Hardstanding
 - Proposed Access Track
 - Existing Access Track to be Upgraded
 - Existing Access Tracks
 - Proposed Passing Bay
 - Proposed Temporary Compound
 - Decommissioned Turbine Area
 - Proposed Peat & Spoil Management Areas
 - Proposed Borrow Pit
 - Proposed Enhancement Area
 - Location of Trial Pit



PLAN
Scale 1:5000

KEYPLAN
Scale 1:100000

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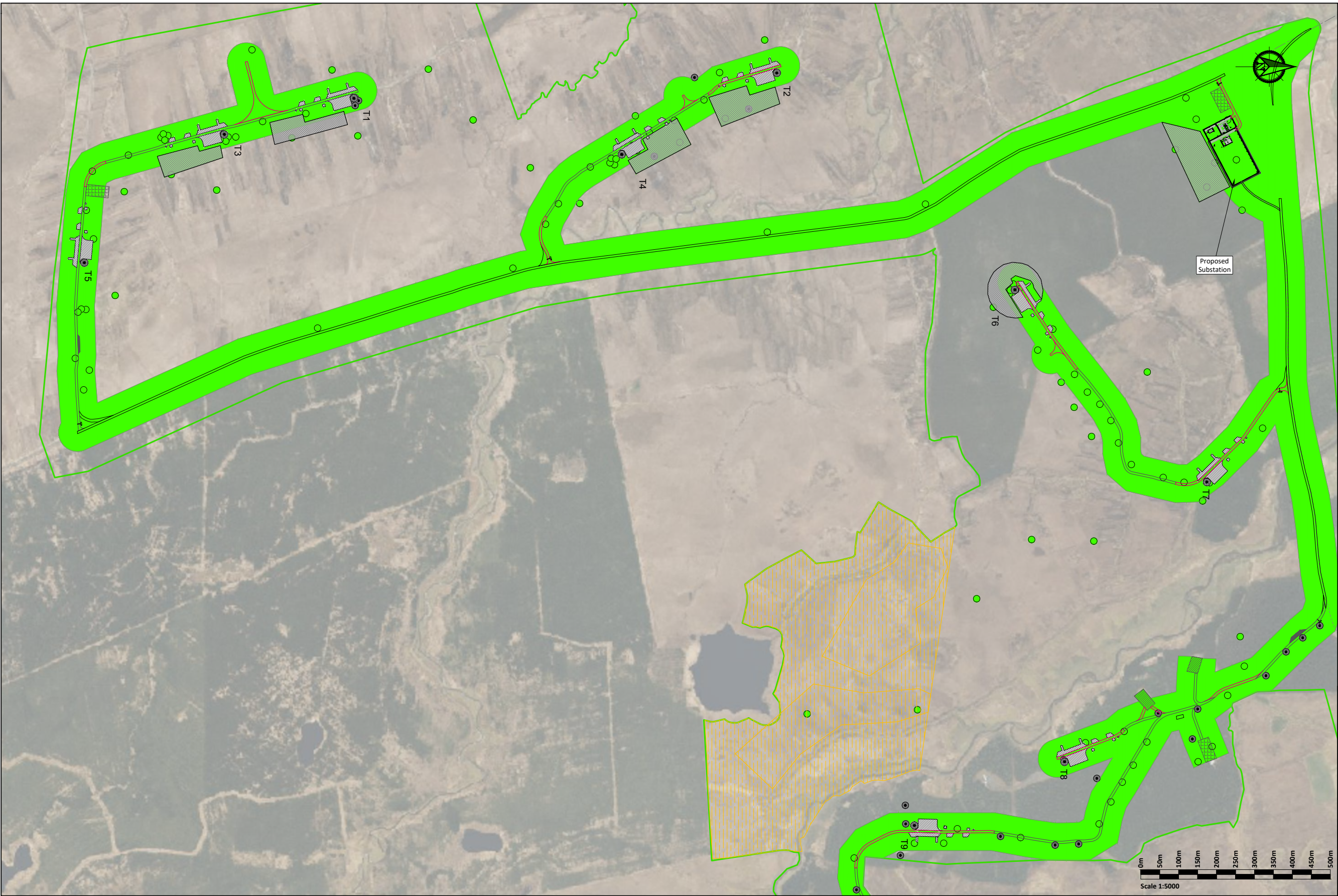
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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT	CRUMHACH WIND FARM			CLIENT	
					
SHEET	GROUND INVESTIGATION LOCATION PLAN SHEET 2 OF 2			Date	30.06.26
				Project number	P23-240
				Scale (@ A1)	1:5000
			Drawn by	SK	Drawing Number
			Checked by	IH	P23-240-0600-0006
			Rev		P02

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Legend:

- EIAR Study Boundary
- Proposed Turbine & Hardstanding
- Proposed Access Track
- Existing Access Track to be Upgraded
- Existing Access Tracks
- Proposed Passing Bay
- Proposed Temporary Compound
- Decommissioned Turbine Area
- Proposed Peat & Spoil Management Areas
- Proposed Borrow Pit
- Proposed Enhancement Area

Factor of Safety Legend:

0 < 1.0	[Red Box]	Increasing Stability ↓
≥ 1.0 < 1.3	[Yellow Box]	
≥ 1.3	[Green Box]	

No Peat Recorded At This Location [Black Dot]

KEYPLAN

Scale 1:100000

PLAN

Scale 1:5000

KEYPLAN

Scale 1:100000

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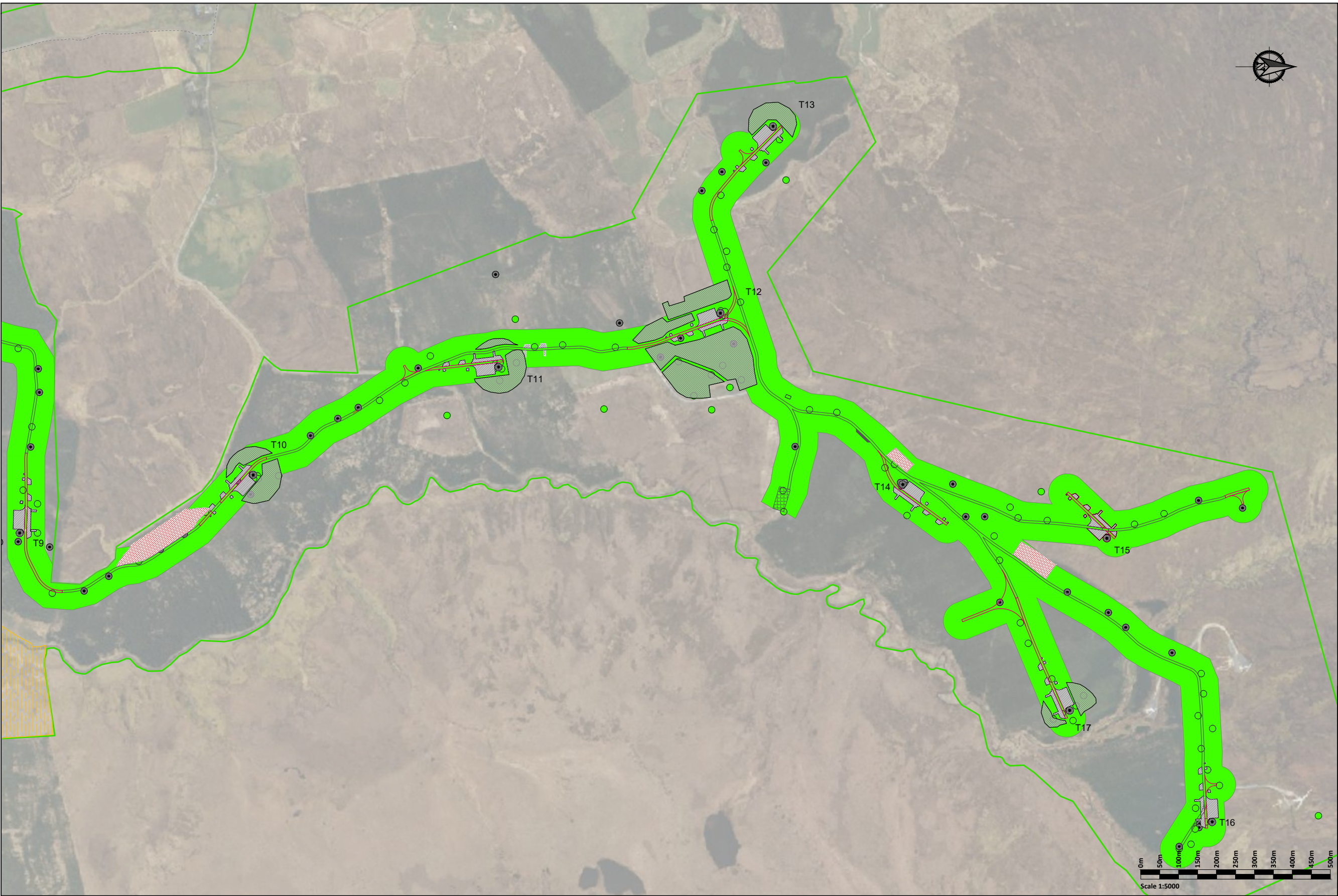
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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT		CLIENT	
CRUMHACH WIND FARM			
SHEET		Date	30.06.26
FACTOR OF SAFETY PLAN SHORT TERM CRITICAL CONDITION (UNDRAINED) SHEET 1 OF 2		Project number	P23-240
		Drawn by	SK
		Checked by	IH
		Drawing Number	P23-240-0600-0007
		Scale (@ A1)	1:5000
		Rev	P02

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2 July 2026



Legend:

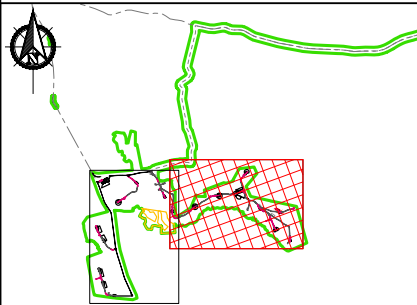
- EIAR Study Boundary
- Proposed Turbine & Hardstanding
- Proposed Access Track
- Existing Access Track to be Upgraded
- Existing Access Tracks
- Proposed Passing Bay
- Proposed Temporary Compound
- Decommissioned Turbine Area
- Proposed Peat & Spoil Management Areas
- Proposed Borrow Pit
- Proposed Enhancement Area

Factor of Safety Legend:

0 < 1.0
≥ 1.0 < 1.3
≥ 1.3

No Peat Recorded At This Location

Increasing Stability ↓



PLAN
Scale 1:5000

KEYPLAN
Scale 1:100000

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Rev.	Description	App By	Date
P01	FOR INFORMATION	BDH	14.04.26
P02	FOR INFORMATION	BDH	30.06.26

PROJECT		CLIENT					
CRUMHACH WIND FARM							
SHEET	FACTOR OF SAFETY PLAN SHORT TERM CRITICAL CONDITION (UNDRAINED) SHEET 2 OF 2	Date	30.06.26	Project number	P23-240	Scale (@ A1)	1:5000
		Drawn by	SK	Drawing Number			Rev
		Checked by	IH	P23-240-0600-0008			
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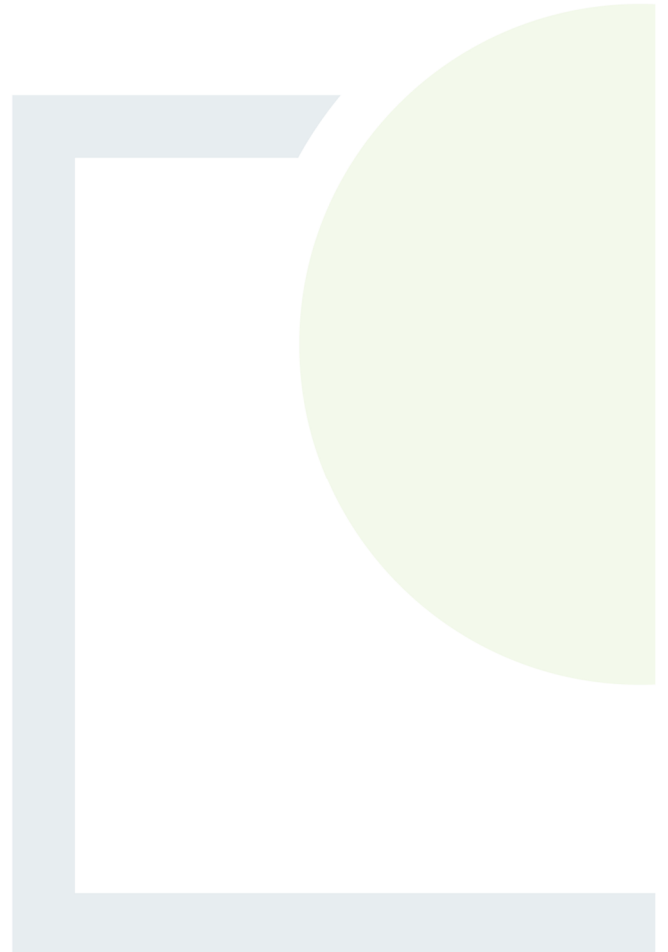
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DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

APPENDIX A

Photos from Site Walkover





Existing founded access road on east side of site, close to BP3



Existing floating access road on site, looking south towards T12



Water crossing on existing wind farm, east of BP3



Area of open peatland and bog pools to the south of T12



Existing floating road in western section of the Site, close to T05



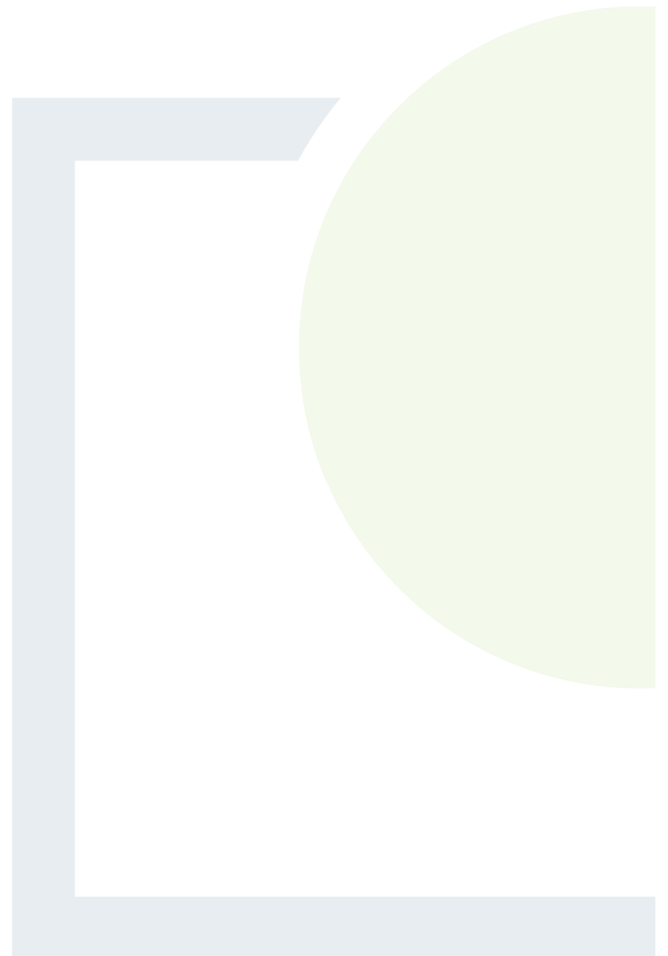
Area of worked peat in western section of Site, south of T01



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

APPENDIX B

Peat Stability Risk Registers



Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T01
------------------	--------------------

Grid Reference (Eastings, Northings):	543507	826746
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-1.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.66 (u), 2.88 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T01
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T02
------------------	--------------------

Grid Reference (Easting, Northings):	543440	827861
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	1.0-2.4	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.69 (u), 11.65 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T02
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T03
------------------	--------------------

Grid Reference (Eastings, Northings):	543602	826404
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.2-2.1	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.23 (u), 6.82 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T03
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T04
------------------	--------------------

Grid Reference (Eastings, Northings):	543654	827452
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.9-2.7	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.87 (u), 6.52 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T04
i	Due to poor drainage and deeper peat this location would require additional construction measures such as: - detailed ground investigation to determine peat, mineral soil and bedrock condition and properties. - excavation side slopes to be supports or excavation face battered to shallow angle - potential for greater water inflow into excavation requiring removal of water using pumps - daily detailed inspection of excavation faces - increased exclusion zone around excavation to avoid accidental loading of crest of slope
ii	Maintain hydrology of area as far as possible;
iii	Use of experienced geotechnical staff for site investigation;
iv	Use of experienced contractors and trained operators to carry out the work;
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T05
------------------	--------------------

Grid Reference (Eastings, Northings):	543940	826035
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-2.3	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.84 (u), 7.01 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T05
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T06
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Grid Reference (Easting, Northings):	544012	828489
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	2.0-3.0	
Control Required:	Yes	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.87 (u), 11.64 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	3	3	9	Low	No		2	3	6	Low
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	3	3	9	Low	No		2	3	6	Low
6	General slope characteristics upslope/downslope from infrastructure location	3	3	9	Low	No		2	3	6	Low
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Deep peat	2	3	6	Low	No		1	3	3	Negligible

	Control Measures to be Implemented Prior to/and During Construction for Turbine T06
i	Due to poor drainage and deeper peat this location would require additional construction measures such as: - detailed ground investigation to determine peat, mineral soil and bedrock condition and properties. - excavation side slopes to be supported or excavation face battered to shallow angle - potential for greater water inflow into excavation requiring removal of water using pumps - daily detailed inspection of excavation faces - increased exclusion zone around excavation to avoid accidental loading of crest of slope
ii	Maintain hydrology of area as far as possible;
iii	Use of experienced geotechnical staff for site investigation;
iv	Use of experienced contractors and trained operators to carry out the work;
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T07
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Grid Reference (Eastings, Northings):	544519	828995
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.2-0.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.84 (u), 3.73 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T07
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T08
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Grid Reference (Eastings, Northings):	545257	828620
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.0-0.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.90 (u), 5.88 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	2	3	6	Low	No		2	3	6	Low
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	3	3	9	Low	No		1	3	3	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	3	9	Low	No		1	3	3	Negligible
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T08
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T09
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Grid Reference (Easting, Northings):	545425	828224
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.1-1.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.48 (u), 3.70 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T9
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T10
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Grid Reference (Easting, Northings):	546041	828377
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.3-0.5	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 5.75 (u), 12.42 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T10
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T11
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Grid Reference (Eastings, Northings):	546688	828662
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.5-1.1	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.29 (u), 5.97 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T11
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T12
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Grid Reference (Eastings, Northings):	547273	828804
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.2-2.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.87 (u), 4.11 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T12
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T13
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Grid Reference (Eastings, Northings):	547412	829297
Distance to Watercourse (m)	100 - 150	
Min & Max Measured Peat Depth (m):	0.0-0.8	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 6.38 (u), 17.12 (d)	1	2	2	Negligible	No	See Below	1	2	2	Negligible
2	Evidence of sub peat water flow	1	2	2	Negligible	No		1	2	2	Negligible
3	Evidence of surface water flow	3	2	6	Low	No		2	2	4	Negligible
4	Evidence of previous failures/slips	1	2	2	Negligible	No		1	2	2	Negligible
5	Type of vegetation	3	2	6	Low	No		2	2	4	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	2	4	Negligible	No		2	2	4	Negligible
7	Evidence of very soft/soft clay at base of peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
8	Evidence of mechanically cut peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
10	Evidence of bog pools	0	2	0	Not Applicable	No		0	2	0	Not Applicable
11	Other	0	2	0	Not Applicable	No		0	2	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T13
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T14
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Grid Reference (Eastings, Northings):	547754	828352
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.1-2.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.86 (u), 7.90 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T14
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T15
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Grid Reference (Eastings, Northings):	548292	828210
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-1.7	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.59 (u), 5.18 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T15
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T16
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Grid Reference (Eastings, Northings):	548570	827462
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.0-1.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.49 (u), 5.75 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	2	3	6	Low	No		1	3	3	Negligible
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	3	3	9	Low	No		2	3	6	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	3	6	Low	No		2	3	6	Low
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T16
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Turbine T17
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Grid Reference (Eastings, Northings):	548194	827756
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.1-1.5	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.74 (u), 6.72 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T17
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.
v	Inspection and approval of turbine base subformation by the Project Geotechnical Engineer where a gravity foundation is constructed.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Substation
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Grid Reference (Eastings, Northings):	543642	828912
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.2-2.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.45 (u), 4.29 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Substation
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Const. Comp. (1)
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Grid Reference (Eastings, Northings):	544224	826048
Distance to Watercourse (m)	100 - 150	
Min & Max Measured Peat Depth (m):	1.9-2.3	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.61 (u), 8.41 (d)	1	2	2	Negligible	No	See Below	1	2	2	Negligible
2	Evidence of sub peat water flow	1	2	2	Negligible	No		1	2	2	Negligible
3	Evidence of surface water flow	3	2	6	Low	No		2	2	4	Negligible
4	Evidence of previous failures/slips	1	2	2	Negligible	No		1	2	2	Negligible
5	Type of vegetation	2	2	4	Negligible	No		2	2	4	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	2	4	Negligible	No		1	2	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
8	Evidence of mechanically cut peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
10	Evidence of bog pools	0	2	0	Not Applicable	No		0	2	0	Not Applicable
11	Other	0	2	0	Not Applicable	No		0	2	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Construction Compound (1)
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Const. Comp. (2)
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Grid Reference (Eastings, Northings):	547440	828280
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.1-2.9	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.77 (u), 6.51 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Construction Compound (2)
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Const. Comp. (3)
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Grid Reference (Eastings, Northings):	545217	829009
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.0-0.4	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 4.94 (u), 6.51 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Construction Compound (3)
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Const. Comp. (SS)
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Grid Reference (Eastings, Northings):	543562	828967
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.5-1.5	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 4.59 (u), 11.96 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	1	1	1	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Construction Compound (SS)
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Borrow Pit 1
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Grid Reference (Eastings, Northings):	545803	828206
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-1.2	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 6.04 (u), 8.50 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Borrow Pit 1
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Borrow Pit 2
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Grid Reference (Eastings, Northings):	547749	828412
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.2-1.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.48 (u), 1.97 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Borrow Pit 2
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Borrow Pit 3
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Grid Reference (Eastings, Northings):	548009	828152
Distance to Watercourse (m)	100 - 150	
Min & Max Measured Peat Depth (m):	0.0-0.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.44 (u), 1.94 (d)	1	2	2	Negligible	No	See Below	1	2	2	Negligible
2	Evidence of sub peat water flow	1	2	2	Negligible	No		1	2	2	Negligible
3	Evidence of surface water flow	3	2	6	Low	No		1	2	2	Negligible
4	Evidence of previous failures/slips	1	2	2	Negligible	No		1	2	2	Negligible
5	Type of vegetation	2	2	4	Negligible	No		2	2	4	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	2	4	Negligible	No		1	2	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
8	Evidence of mechanically cut peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
10	Evidence of bog pools	0	2	0	Not Applicable	No		0	2	0	Not Applicable
11	Other	0	2	0	Not Applicable	No		0	2	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Borrow Pit 3
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Met Mast
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Grid Reference (Eastings, Northings):	548483	827939
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.0-1.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 4.59 (u), 11.96 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	1	3	3	Negligible	No		2	3	6	Low
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	2	3	6	Low	No		2	3	6	Low
6	General slope characteristics upslope/downslope from infrastructure location	1	3	3	Negligible	No		1	3	3	Negligible
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Met Mast
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T01 to T03
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-2.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.30 (u), 4.74 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Acces Road from T01 to T03
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T03 to T05
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.1-3.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.22 (u), 2.13 (d)	1	4	4	Negligible	No	See Below	1	4	4	Negligible
2	Evidence of sub peat water flow	1	4	4	Negligible	No		1	4	4	Negligible
3	Evidence of surface water flow	3	4	12	Medium	No		2	4	8	Low
4	Evidence of previous failures/slips	1	4	4	Negligible	No		1	4	4	Negligible
5	Type of vegetation	4	4	16	Medium	No		2	4	8	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	4	8	Low	No		2	4	8	Low
7	Evidence of very soft/soft clay at base of peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
8	Evidence of mechanically cut peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
10	Evidence of bog pools	0	4	0	Not Applicable	No		0	4	0	Not Applicable
11	Other	0	4	0	Not Applicable	No		0	4	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Acces Road T03 to T05
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T05 to local road
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	100 - 150	
Min & Max Measured Peat Depth (m):	0.4-2.3	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.75 (u), 1.67 (d)	1	2	2	Negligible	No	See Below	1	2	2	Negligible
2	Evidence of sub peat water flow	1	2	2	Negligible	No		1	2	2	Negligible
3	Evidence of surface water flow	3	2	6	Low	No		2	2	4	Negligible
4	Evidence of previous failures/slips	1	2	2	Negligible	No		1	2	2	Negligible
5	Type of vegetation	4	2	8	Low	No		2	2	4	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	2	4	Negligible	No		2	2	4	Negligible
7	Evidence of very soft/soft clay at base of peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
8	Evidence of mechanically cut peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
10	Evidence of bog pools	0	2	0	Not Applicable	No		0	2	0	Not Applicable
11	Other	0	2	0	Not Applicable	No		0	2	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for T05 to Local Road
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T02 to T04
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	1.3-3.3	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.67 (u), 2.32 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Access Road T02 to T04
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T04 to local road
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.8-3.2	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 6.04 (u), 8.5 (d)	1	4	4	Negligible	No	See Below	1	4	4	Negligible
2	Evidence of sub peat water flow	1	4	4	Negligible	No		1	4	4	Negligible
3	Evidence of surface water flow	3	4	12	Medium	No		2	4	8	Low
4	Evidence of previous failures/slips	1	4	4	Negligible	No		1	4	4	Negligible
5	Type of vegetation	4	4	16	Medium	No		2	4	8	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	4	8	Low	No		2	4	8	Low
7	Evidence of very soft/soft clay at base of peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
8	Evidence of mechanically cut peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
10	Evidence of bog pools	0	4	0	Not Applicable	No		0	4	0	Not Applicable
11	Other	0	4	0	Not Applicable	No		0	4	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Turbine T05
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Spur to Substation
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.5-1.5	
Control Required:	Yes	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 3.45 (u), 3.89 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	3	3	9	Low	No		2	3	6	Low
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	2	3	6	Low	No		2	3	6	Low
6	General slope characteristics upslope/downslope from infrastructure location	3	3	9	Low	No		2	3	6	Low
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Spur to Substation
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Spur to T07
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.1-0.5	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 5.75 (u), 8.28 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	2	3	6	Low	No		1	3	3	Negligible
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	2	3	6	Low	No		2	3	6	Low
6	General slope characteristics upslope/downslope from infrastructure location	3	3	9	Low	No		2	3	6	Low
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Spur to T07
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T06 to T07
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.3-2.5	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.46 (u), 1.38 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		1	1	1	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Acces Road T06 to T07
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Entrance to T08
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.0-0.7	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.77 (u), 3.95 (d)	1	4	4	Negligible	No	See Below	1	4	4	Negligible
2	Evidence of sub peat water flow	1	4	4	Negligible	No		1	4	4	Negligible
3	Evidence of surface water flow	2	4	8	Low	No		1	4	4	Negligible
4	Evidence of previous failures/slips	1	4	4	Negligible	No		1	4	4	Negligible
5	Type of vegetation	2	4	8	Low	No		2	4	8	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	4	8	Low	No		2	4	8	Low
7	Evidence of very soft/soft clay at base of peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
8	Evidence of mechanically cut peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
10	Evidence of bog pools	0	4	0	Not Applicable	No		0	4	0	Not Applicable
11	Other	0	4	0	Not Applicable	No		0	4	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Site Entrance to T08
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T08 to T09
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-2.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 6.16 (u), 8.87 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Access Road T08 to T09
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T09 to T10
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-0.7	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 4.79 (u), 6.90 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Acces Road from T09 to T10
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T10 to T11
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-0.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.51 (u), 3.56 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Acces Road T10 to T11
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T11 to T12
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-0.8	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.51 (u), 3.56 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Access Road T11 to T12
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T12 to T13
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Grid Reference (Easting, Northings):	varies	varies
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.2-4.6	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.87 (u), 2.70 (d)	1	4	4	Negligible	No	See Below	1	4	4	Negligible
2	Evidence of sub peat water flow	1	4	4	Negligible	No		1	4	4	Negligible
3	Evidence of surface water flow	2	4	8	Low	No		2	4	8	Low
4	Evidence of previous failures/slips	1	4	4	Negligible	No		1	4	4	Negligible
5	Type of vegetation	4	4	16	Medium	No		2	4	8	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	4	8	Low	No		2	4	8	Low
7	Evidence of very soft/soft clay at base of peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
8	Evidence of mechanically cut peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
10	Evidence of bog pools	0	4	0	Not Applicable	No		0	4	0	Not Applicable
11	Other	0	4	0	Not Applicable	No		0	4	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Access Road T12 to T13
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T12 to T14
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Grid Reference (Easting, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-1.4	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.48 (u), 1.97 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Acces Road T12 to T14
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T14 to T15
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-1.2	
Control Required:	Yes	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.48 (u), 1.97 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Access Road T14 to T15
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T14 to T17
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.0-2.4	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 3.11 (u), 4.64 (d)	1	4	4	Negligible	No	See Below	1	4	4	Negligible
2	Evidence of sub peat water flow	1	4	4	Negligible	No		1	4	4	Negligible
3	Evidence of surface water flow	2	4	8	Low	No		1	4	4	Negligible
4	Evidence of previous failures/slips	1	4	4	Negligible	No		1	4	4	Negligible
5	Type of vegetation	2	4	8	Low	No		2	4	8	Low
6	General slope characteristics upslope/downslope from infrastructure location	3	4	12	Medium	No		2	4	8	Low
7	Evidence of very soft/soft clay at base of peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
8	Evidence of mechanically cut peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
10	Evidence of bog pools	0	4	0	Not Applicable	No		0	4	0	Not Applicable
11	Other	0	4	0	Not Applicable	No		0	4	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Access Road T14 to T17
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	T16 to T17
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.0-1.1	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.67 (u), 2.13 (d)	1	4	4	Negligible	No	See Below	1	4	4	Negligible
2	Evidence of sub peat water flow	1	4	4	Negligible	No		1	4	4	Negligible
3	Evidence of surface water flow	2	4	8	Low	No		2	4	8	Low
4	Evidence of previous failures/slips	1	4	4	Negligible	No		1	4	4	Negligible
5	Type of vegetation	2	4	8	Low	No		1	4	4	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	4	8	Low	No		1	4	4	Negligible
7	Evidence of very soft/soft clay at base of peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
8	Evidence of mechanically cut peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
10	Evidence of bog pools	0	4	0	Not Applicable	No		0	4	0	Not Applicable
11	Other	0	4	0	Not Applicable	No		0	4	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Acces Road T17 to T16
i	Maintain hydrology of area as far as possible;
ii	Use of experienced geotechnical staff for site investigation;
iii	Use of experienced contractors and trained operators to carry out the work;
iv	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T01
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Grid Reference (Eastings, Northings):	543588	826595
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	1.3-2.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.34 (u), 2.71 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T01
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T02
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Grid Reference (Eastings, Northings):	543525	827750
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-2.2	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 3.33 (u), 3.48 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	4	1	4	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T02
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T03
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Grid Reference (Eastings, Northings):	543670	826300
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.3-2.4	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.36 (u), 2.40 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	3	3	9	Low	No		2	3	6	Low
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	4	3	12	Medium	No		3	3	9	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	3	6	Low	No		2	3	6	Low
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T03
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T04
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Grid Reference (Eastings, Northings):	543630	827560
Distance to Watercourse (m)	100 - 150	
Min & Max Measured Peat Depth (m):	0.0-2.2	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 3.53 (u), 3.83 (d)	1	2	2	Negligible	No	See Below	1	2	2	Negligible
2	Evidence of sub peat water flow	1	2	2	Negligible	No		1	2	2	Negligible
3	Evidence of surface water flow	3	2	6	Low	No		2	2	4	Negligible
4	Evidence of previous failures/slips	1	2	2	Negligible	No		1	2	2	Negligible
5	Type of vegetation	4	2	8	Low	No		2	2	4	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	2	4	Negligible	No		2	2	4	Negligible
7	Evidence of very soft/soft clay at base of peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
8	Evidence of mechanically cut peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	2	0	Not Applicable	No		0	2	0	Not Applicable
10	Evidence of bog pools	0	2	0	Not Applicable	No		0	2	0	Not Applicable
11	Other	0	2	0	Not Applicable	No		0	2	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T04
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T06
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Grid Reference (Eastings, Northings):	544000	828460
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	2.0-3.3	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.03 (u), 1.92 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T06
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T10
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Grid Reference (Eastings, Northings):	546075	828351
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.2-0.5	
Control Required:	Yes	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.42 (u), 3.89 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T10
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T11
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Grid Reference (Eastings, Northings):	546713	828636
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-1.1	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.68 (u), 4.35 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	2	1	2	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T11
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T12
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Grid Reference (Eastings, Northings):	547367	828699
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.0-4.3	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 1.77 (u), 1.53 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		2	1	2	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	3	1	3	Negligible	No		1	1	1	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	2	1	2	Negligible	No		1	1	1	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T12
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T13
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Grid Reference (Eastings, Northings):	547410	839330
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.4-3.2	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.58 (u), 2.39 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	3	3	9	Low	No		2	3	6	Low
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	3	3	9	Low	No		2	3	6	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	3	6	Low	No		2	3	6	Low
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T13
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
(2) Probability assessed as per Table A and B of Appendix E.
(3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage T17
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Grid Reference (Eastings, Northings):	548224	827794
Distance to Watercourse (m)	50 - 100	
Min & Max Measured Peat Depth (m):	0.3-1.5	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.10 (u), 2.57 (d)	1	3	3	Negligible	No	See Below	1	3	3	Negligible
2	Evidence of sub peat water flow	1	3	3	Negligible	No		1	3	3	Negligible
3	Evidence of surface water flow	3	3	9	Low	No		2	3	6	Low
4	Evidence of previous failures/slips	1	3	3	Negligible	No		1	3	3	Negligible
5	Type of vegetation	3	3	9	Low	No		2	3	6	Low
6	General slope characteristics upslope/downslope from infrastructure location	2	3	6	Low	No		2	3	6	Low
7	Evidence of very soft/soft clay at base of peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
8	Evidence of mechanically cut peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	3	0	Not Applicable	No		0	3	0	Not Applicable
10	Evidence of bog pools	0	3	0	Not Applicable	No		0	3	0	Not Applicable
11	Other	0	3	0	Not Applicable	No		0	3	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Peat Storage T17
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Peat Storage Substation
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Grid Reference (Eastings, Northings):	543675	828917
Distance to Watercourse (m)	> 150	
Min & Max Measured Peat Depth (m):	0.2-2.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.65 (u), 2.87 (d)	1	1	1	Negligible	No	See Below	1	1	1	Negligible
2	Evidence of sub peat water flow	1	1	1	Negligible	No		1	1	1	Negligible
3	Evidence of surface water flow	3	1	3	Negligible	No		1	1	1	Negligible
4	Evidence of previous failures/slips	1	1	1	Negligible	No		1	1	1	Negligible
5	Type of vegetation	2	1	2	Negligible	No		2	1	2	Negligible
6	General slope characteristics upslope/downslope from infrastructure location	3	1	3	Negligible	No		2	1	2	Negligible
7	Evidence of very soft/soft clay at base of peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
8	Evidence of mechanically cut peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	1	0	Not Applicable	No		0	1	0	Not Applicable
10	Evidence of bog pools	0	1	0	Not Applicable	No		0	1	0	Not Applicable
11	Other	0	1	0	Not Applicable	No		0	1	0	Not Applicable

	Control Measures to be Implemented Prior to/and During Construction for Access Road T08 to T09
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;
iii	Detailed ground investigation to determine peat, mineral soil and bedrock condition and properties.

Note

- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.

Crumhach Wind Farm - Peat Stability Risk Register (Rev 0)

Location:	Biodiversity Enhancement Area
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Grid Reference (Eastings, Northings):	varies	varies
Distance to Watercourse (m)	< 50	
Min & Max Measured Peat Depth (m):	0.1-5.0	
Control Required:	No	

		Pre-Control Measure Implementation					Control measures to be implemented during construction	Post-Control Measure Implementation			
Ref.	Contributory/Qualitative Factors to Potential Peat Failure	Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating	Control Required		Prob (Note 2)	Impact (Note 3)	Risk	Risk Rating
1	FOS = 2.01 (u), 7.39 (d)	1	4	4	Negligible	No	See Below	1	4	4	Negligible
2	Evidence of sub peat water flow	1	4	4	Negligible	No		1	4	4	Negligible
3	Evidence of surface water flow	3	4	12	Medium	No		2	4	8	Low
4	Evidence of previous failures/slips	1	4	4	Negligible	No		1	4	4	Negligible
5	Type of vegetation	3	4	12	Medium	No		2	4	8	Low
6	General slope characteristics upslope/downslope from infrastructure location	3	4	12	Medium	No		2	4	8	Low
7	Evidence of very soft/soft clay at base of peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
8	Evidence of mechanically cut peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
9	Evidence of quaking or buoyant peat	0	4	0	Not Applicable	No		0	4	0	Not Applicable
10	Evidence of bog pools	2	4	8	Low	No		2	4	8	Low
11	Deep peat	3	4	12	Medium	No		2	4	8	Low

	Control Measures to be Implemented Prior to/and During Construction for Biodiversity Enhancement Area
i	Maintain hydrology of area as far as possible;
iii	Use of experienced contractors and trained operators to carry out the work;

Note

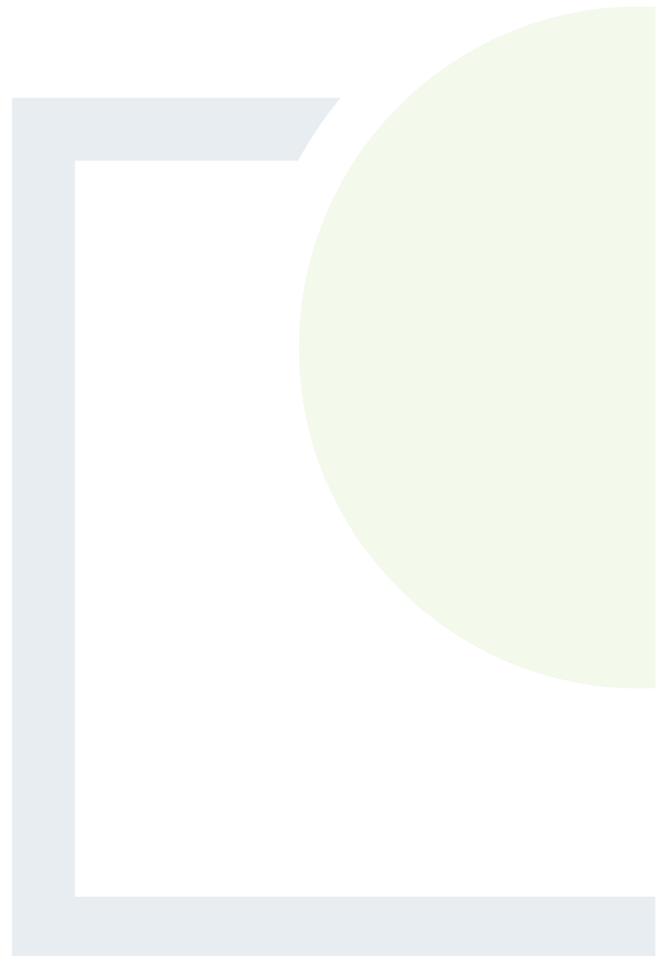
- (1) FOS abbreviations are: u: FOS for undrained analysis, d: FOS for drained analysis.
 (2) Probability assessed as per Table A and B of Appendix E.
 (3) Impact based on distance of infrastructure element to nearest watercourse.



DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

APPENDIX C

Calculated FOS for Peat Slopes
on Site



Calculated FoS of Natural Peat Slopes for Crumhach Wind Farm - Undrained Analysis									
Turbine No./Waypoint	Easting	Northing	Slope	Undrained shear strength	Bulk unit weight of Peat	Peat Depth	Surcharge Equivalent Placed Fill Depth (m)	Factor of Safety for Load Condition	
			β (deg)	c_u (kPa)	γ (kN/m ³)	(m)	Condition (2)	Condition (1)	Condition (2)
T01	543507	826746	5	6	10	1.60	2.6	4.32	2.66
T02	543440	827861	3	3	10	2.40	3.4	2.39	1.69
T03	543602	826404	5	6	10	2.10	3.1	3.29	2.23
T04	543655	827452	5	6	10	2.70	3.7	2.56	1.87
T05	543941	826036	5	6	10	2.20	3.2	3.14	2.16
T06	544012	828489	3	6	10	3.00	4.0	3.83	2.87
T07	544519	828995	12	6	10	0.60	1.6	4.92	1.84
T08	545257	828620	8	6	10	0.50	1.5	8.71	2.90
T09	545425	828224	12	6	10	1.00	2.0	2.95	1.48
T10	546041	828377	4	6	10	0.50	1.5	17.24	5.75
T11	546688	828662	8	6	10	0.90	1.9	4.84	2.29
T12	547273	828804	4	6	10	2.00	3.0	4.31	2.87
T13	547412	829297	3	6	10	0.80	1.8	14.35	6.38
T14	547754	828353	6	6	10	2.10	3.1	2.75	1.86
T15	548292	828210	10	6	10	1.20	2.2	2.92	1.59
T16	548570	827462	9	6	10	1.60	2.6	2.43	1.49
T17	548194	827756	6	6	10	1.50	2.5	3.85	2.31
Substation	543642	828912	4	6	10	2.00	3.0	4.31	2.87
Lidar (west)	543687	826047	6	6	10	1.60	2.6	3.61	2.22
TCC (1)	544224	826048	4	6	10	2.30	3.3	3.75	2.61
TCC (2)	547440	828280	5	6	10	2.90	3.9	2.38	1.77
TCC (3)	545217	829009	5	6	10	0.40	1.4	17.28	4.94
TCC (SS)	543562	828967	3	6	10	1.50	2.5	7.65	4.59
Borrow pit 1	545803	828206	3	6	10	0.90	1.9	12.76	6.04
Borrow pit 2	547749	828412	12	6	10	1.00	2.0	2.95	1.48
Borrow pit 3	548009	828152	20	6	10	0.30	1.3	6.22	1.44
Peat storage T01	543606	826756	5	6	10	1.70	3.0	4.07	2.34
Peat storage T02	543560	827725	3	6	10	2.20	3.5	5.22	3.33
Peat storage T03	543708	826264	4	6	10	2.40	3.7	3.59	2.36
Peat storage T04	543623	827605	3	6	10	2.00	3.3	5.74	3.53
Peat storage T06	544013	828489	4	6	10	3.00	4.3	2.87	2.03
Peat storage T10	546108	828375	10	6	10	0.20	1.5	17.54	2.42
Peat storage T11	546735	828673	7	6	10	0.60	1.9	8.27	2.68
Peat storage T12	547249	828641	4	6	10	4.30	5.6	2.29	1.77
Peat storage T13	547439	829334	3	6	10	3.20	4.5	3.59	2.58
Peat storage T17	548203	827729	6	6	10	1.50	2.8	3.85	2.10
Peat storage Substation	543639	828886	4	6	10	2.00	3.3	4.31	2.65
MKO									
18	543439	827710	2	6	10	1.70	2.7	10.12	6.37
21	545511	828065	13	6	10	0.30	1.3	9.12	2.11
57	547707	828396	6	6	10	1.00	2.0	5.77	2.89
68	547290	828925	2	6	10	3.90	4.9	4.41	3.51
156	543741	828995	3	6	10	1.00	2.0	11.48	5.74
479	544116	828589	5	6	10	2.30	3.3	3.00	2.09
508	543699	826056	4	6	10	1.90	2.9	4.54	2.97
509	543657	826151	4	6	10	0.10	1.1	86.22	7.84
519	543688	827369	2	6	10	3.20	4.2	5.38	4.10
527	543379	826477	4	6	10	1.50	2.5	5.75	3.45
549	543432	826688	5	6	10	1.70	2.7	4.07	2.56
565	548147	827839	8	6	10	1.20	2.2	3.63	1.98
569	548085	827933	5	6	10	2.40	3.4	2.88	2.03
570	548064	827987	5	6	10	1.50	2.5	4.61	2.76
573	548022	8828182	0	6	10	No peat recorded at this location			
578	548188	828068	0	6	10	No peat recorded at this location			
595	548135	828257	10	6	10	0.10	1.1	35.09	3.19
601	548119	828333	9	6	10	1.00	2.0	3.88	1.94
618	547274	829115	8	6	10	0.40	1.4	10.88	3.11
624	547429	829262	4	6	10	0.80	1.8	10.78	4.79
653	545434	828337	12	6	10	0.80	1.8	3.69	1.64
659	545207	828675	8	6	10	0.50	1.5	8.71	2.90
859	547765	828270	7.5	6	10	1.20	2.2	3.86	2.11
898	545472	828301	12	6	10	1.00	2.0	2.95	1.48
915	547439	829334	3	6	10	3.20	4.2	3.59	2.73
958	545131	827941	4	6	10	3.30	4.3	2.61	2.01
960	545120	828232	4	6	10	1.40	2.4	6.16	3.59
967	544827	828388	1	6	10	5.00	6.0	6.88	5.73
974	544229	828838	2.5	6	10	2.00	3.0	6.88	4.59
978	544671	828533	3.5	6	10	2.50	3.5	3.94	2.81
984	544675	828697	4.5	6	10	2.50	3.5	3.07	2.19
May-25									
PP100	544276	826033	6	6	10	2.30	3.3	2.51	1.75
PP101	544193	826011	6	6	10	2.20	3.2	2.62	1.80
PP102	543878	826059	3	6	10	0.50	1.5	22.96	7.65
PP103	543753	826140	3	6	10	1.00	2.0	11.48	5.74
PP104	543708	826264	4	6	10	2.40	3.4	3.59	2.54
PP105	543609	826434	7	6	10	0.50	1.5	9.92	3.31
PP106	543568	826505	3	6	10	0.90	1.9	12.76	6.04
PP107	543611	826582	3	6	10	1.80	2.8	6.38	4.10
PP108	543606	826756	7	6	10	1.70	2.7	2.92	1.84
PP109	543839	827251	3	6	10	0.80	1.8	14.35	6.38
PP110	543784	827341	6	6	10	2.00	3.0	2.89	1.92
PP111	543598	827525	1	6	10	1.50	2.5	22.92	13.75
PP112	543553	827488	6	6	10	1.50	2.5	3.85	2.31
PP113	543511	827669	3	6	10	3.30	4.3	3.48	2.67

Calculated FoS of Natural Peat Slopes for Crumhach Wind Farm - Undrained Analysis

Turbine No./Waypoint	Easting	Northing	Slope	Undrained shear strength	Bulk unit weight of Peat	Peat Depth	Surcharge Equivalent Placed Fill Depth (m)	Factor of Safety for Load Condition	
			β (deg)	c_u (kPa)	γ (kN/m ³)	(m)	Condition (2)	Condition (1)	Condition (2)
PP114	543452	827644	3	6	10	No peat recorded at this location			
PP115	543660	827538	4	6	10	No peat recorded at this location			
PP116	543623	827605	3	6	10	2.00	3.3	5.74	3.53
PP117	543560	827725	3	6	10	2.20	3.5	5.22	3.33
PP118	543535	827787	5	6	10	No peat recorded at this location			
PP119	543506	828940	4	6	10	1.50	2.5	5.75	3.45
PP120	543677	829016	3	6	10	0.80	1.8	14.35	6.38
PP121	543564	829050	3	6	10	1.00	2.0	11.48	5.74
PP122	544520	828935	8	6	10	0.70	1.7	6.22	2.56
PP123	544507	828880	7	6	10	0.30	1.3	16.53	3.82
PP124	544473	828796	3	6	10	0.90	1.9	12.76	6.04
PP125	544416	828762	5	6	10	1.00	2.0	6.91	3.46
PP126	544357	828742	5	6	10	2.40	3.4	2.88	2.03
PP127	544314	828713	7	6	10	2.40	3.4	2.07	1.46
PP128	544282	828680	4	6	10	2.70	3.7	3.19	2.33
PP129	544235	828646	3	6	10	2.30	3.3	4.99	3.48
PP130	544256	828611	3	6	10	2.00	3.0	5.74	3.83
PP131	544322	828645	4	6	10	3.00	4.0	2.87	2.16
PP132	544399	828691	5	6	10	3.10	4.1	2.23	1.69
PP133	544171	828549	3	6	10	4.00	5.0	2.87	2.30
PP134	544898	829293	4	6	10	No peat recorded at this location			
PP135	544930	829248	4	6	10	No peat recorded at this location			
PP136	544967	829204	7	6	10	No peat recorded at this location			
PP137	545030	829151	6	6	10	No peat recorded at this location			
PP138	545082	829050	9	6	10	0.40	1.4	9.71	2.77
PP139	545118	828971	4	6	10	No peat recorded at this location			
PP140	545197	828957	5	6	10	No peat recorded at this location			
PP141	545257	828972	5	6	10	0.40	1.4	17.28	4.94
PP142	545129	828867	3	6	10	No peat recorded at this location			
PP143	545177	828777	3	6	10	0.40	1.4	28.70	8.20
PP144	545205	828837	3	6	10	0.20	1.2	57.40	9.57
PP145	545266	828801	3	6	10	0.40	1.4	28.70	8.20
PP146	545311	828772	4	6	10	0.40	1.4	21.56	6.16
PP147	545363	828742	3	6	10	0.40	1.4	28.70	8.20
PP148	545421	828711	4	6	10	0.40	1.4	21.56	6.16
PP149	545474	828657	4	6	10	No peat recorded at this location			
PP150	545477	828595	6	6	10	No peat recorded at this location			
PP151	545454	828451	4	6	10	No peat recorded at this location			
PP152	545504	828187	5	6	10	No peat recorded at this location			
PP153	545595	828071	15	6	10	No peat recorded at this location			
PP154	545660	828110	15	6	10	No peat recorded at this location			
PP155	545739	828149	3	6	10	0.60	1.6	19.13	7.18
PP156	545859	828221	5	6	10	No peat recorded at this location			
PP157	545915	828279	4	6	10	0.80	1.8	10.78	4.79
PP158	545999	828362	4	6	10	No peat recorded at this location			
PP159	546034	828326	7	6	10	No peat recorded at this location			
PP160	546192	828481	8	6	10	No peat recorded at this location			
PP161	546264	828526	10	6	10	No peat recorded at this location			
PP162	546318	828555	8	6	10	No peat recorded at this location			
PP163	546374	828574	5	6	10	0.30	1.3	23.04	5.32
PP164	546441	828620	10	6	10	0.40	1.4	8.77	2.51
PP165	546508	828691	2	6	10	0.40	1.4	43.01	12.29
PP166	546691	828626	2	6	10	0.50	1.8	34.41	9.83
PP167	546735	828673	7	6	10	0.60	1.9	8.27	2.68
PP168	546783	828715	10	6	10	0.40	1.4	8.77	2.51
PP169	546857	828720	4	6	10	0.70	1.7	12.32	5.07
PP170	546996	828714	3	6	10	0.80	1.8	14.35	6.38
PP171	547115	828688	9	6	10	No peat recorded at this location			
PP172	547249	828641	4	6	10	4.30	5.6	2.01	1.55
PP173	547328	828628	6	6	10	0.30	1.6	19.24	3.72
PP174	547298	828608	3	6	10	1.60	2.6	7.18	4.42
PP175	547326	828833	10	6	10	1.30	2.3	2.70	1.53
PP176	547256	829024	10	6	10	0.30	1.3	11.70	2.70
PP177	547224	829127	10	6	10	No peat recorded at this location			
PP178	547470	828452	2	6	10	No peat recorded at this location			
PP179	547438	828336	5	6	10	2.50	3.5	2.76	1.97
PP180	547508	828549	7	6	10	0.80	1.8	6.20	2.76
PP181	547580	828542	12	6	10	1.00	2.0	2.95	1.48
PP182	547920	828267	20	6	10	No peat recorded at this location			
PP183	547970	828267	20	6	10	No peat recorded at this location			
PP184	547886	828353	20	6	10	No peat recorded at this location			
PP185	548058	828264	12	6	10	1.00	2.0	2.95	1.48
PP186	548365	828247	6	6	10	1.00	2.0	5.77	2.89
PP187	548443	828275	15	6	10	0.50	1.5	4.80	1.60
PP188	548534	828310	25	6	10	No peat recorded at this location			
PP189	548650	828290	20	6	10	No peat recorded at this location			
PP190	548010	828041	10	6	10	No peat recorded at this location			
PP191	548151	827733	3	6	10	1.50	2.8	7.65	4.17
PP192	548231	827795	2	6	10	0.90	2.2	19.11	8.00
PP193	548342	827975	8	6	10	No peat recorded at this location			
PP194	548541	827853	10	6	10	1.10	2.1	3.19	1.67
PP195	548547	827800	12	6	10	0.50	1.5	5.90	1.97
PP196	548533	827742	10	6	10	1.00	2.0	3.51	1.75
PP197	548558	827599	7	6	10	2.00	3.0	2.48	1.65
PP198	548555	827462	7	6	10	0.80	1.8	6.20	2.76
PP199	548514	827403	8	6	10	1.00	2.0	4.35	2.18
PP200	543514	826749	5	6	10	No peat recorded at this location			
PP201	543608	826245	2	6	10	2.40	3.4	7.17	5.06
PP202	544063	826027	5	6	10	1.60	2.6	4.32	2.66

Calculated FoS of Natural Peat Slopes for Crumhach Wind Farm - Undrained Analysis

Turbine No./Waypoint	Easting	Northing	Slope	Undrained shear strength	Bulk unit weight of Peat	Peat Depth	Surcharge Equivalent Placed Fill Depth (m)	Factor of Safety for Load Condition	
			β (deg)	c_u (kPa)	γ (kN/m ³)	(m)	Condition (2)	Condition (1)	Condition (2)
PP203	543670	827430	5	6	10	1.50	2.5	4.61	2.76
PP204	544013	828489	4	6	10	3.00	4.3	2.87	2.03
PP205	545251	828618	20	6	10	No peat recorded at this location			
PP206	545421	828201	12	6	10	No peat recorded at this location			
PP207	546047	828371	4	6	10	0.80	1.8	10.78	4.79
PP208	546688	828665	8	6	10	0.90	1.9	4.84	2.29
PP209	547277	829177	10	6	10	No peat recorded at this location			
PP210	547753	828353	31	6	10	No peat recorded at this location			
PP211	548195	827756	8	6	10	0.40	1.4	10.88	3.11
PP212	548293	828210	10	6	10	No peat recorded at this location			
PP213	548530	827451	9	6	10	0.40	1.4	9.71	2.77
PP214	548526	827498	7	6	10	1.00	2.0	4.96	2.48
PP215	548483	827397	2	6	10	No peat recorded at this location			
PP216	548541	827655	8	6	10	0.60	1.6	7.26	2.72
PP217	544569	828984	12	6	10	0.30	1.3	9.83	2.27
PP218	547007	828778	4	6	10	No peat recorded at this location			
PP219	547168	828738	10	6	10	No peat recorded at this location			
PP220	547308	828723	4	6	10	No peat recorded at this location			
PP221	543611	826404	8	6	10	2.00	3.0	2.18	1.45
PP222	543609	826414	5	6	10	1.50	2.5	4.61	2.76
PP223	543602	826400	5	6	10	1.80	2.8	3.84	2.47
PP224	543620	826408	5	6	10	0.90	1.9	7.68	3.64
PP225	543616	826393	5	6	10	1.80	2.8	3.84	2.47
PP226	543513	826758	5	6	10	No peat recorded at this location			
PP227	543514	826741	5	6	10	No peat recorded at this location			
PP228	543526	826749	5	6	10	No peat recorded at this location			
PP229	543505	826749	5	6	10	No peat recorded at this location			
PP230	543605	826255	4	6	10	2.70	3.7	3.19	2.33
PP231	543610	826237	4	6	10	2.70	3.7	3.19	2.33
PP232	543601	826243	4	6	10	2.70	3.7	3.19	2.33
PP233	543617	826247	4	6	10	2.70	3.7	3.19	2.33
PP234	543682	827433	3	6	10	1.20	2.2	9.57	5.22
PP235	543677	827421	3	6	10	0.90	1.9	12.76	6.04
PP236	543665	827424	3	6	10	1.20	2.2	9.57	5.22
PP237	543667	827437	3	6	10	1.20	2.2	9.57	5.22
PP238	543636	827486	5	6	10	2.70	3.7	2.56	1.87
PP239	543631	827481	5	6	10	2.50	3.5	2.76	1.97
PP240	543632	827496	5	6	10	2.70	3.7	2.56	1.87
PP241	543645	827492	5	6	10	2.60	3.6	2.66	1.92
PP242	543642	827480	5	6	10	2.70	3.7	2.56	1.87
PP243	547393	829201	3	6	10	No peat recorded at this location			
PP244	547284	828797	4	6	10	2.00	3.0	4.31	2.87
PP245	547279	828803	4	6	10	0.70	1.7	12.32	5.07
PP246	547274	828810	4	6	10	0.60	1.6	14.37	5.39
PP247	547285	828808	4	6	10	1.40	2.4	6.16	3.59
PP248	547270	828798	4	6	10	0.70	1.7	12.32	5.07
PP249	546680	828670	8	6	10	0.30	1.3	14.51	3.35
PP250	546692	828673	8	6	10	1.70	3.0	2.56	1.48
PP251	546696	828657	8	6	10	1.10	2.1	3.96	2.07
PP252	546678	828658	8	6	10	0.70	1.7	6.22	2.56
PP253	546041	828376	4	6	10	0.30	1.3	28.74	6.63
PP254	546052	828375	4	6	10	0.30	1.3	28.74	6.63
PP255	546054	828367	4	6	10	0.40	1.4	21.56	6.16
PP256	546042	828367	4	6	10	0.50	1.5	17.24	5.75
PP257	548537	827457	9	6	10	No peat recorded at this location			
PP258	548535	827447	9	6	10	No peat recorded at this location			
PP259	548525	827443	9	6	10	0.30	1.3	12.94	2.99
PP260	548211	827768	8	6	10	1.50	2.5	2.90	1.74
PP261	548174	827747	8	6	10	1.50	2.5	2.90	1.74
PP262	548203	827729	8	6	10	1.80	2.8	2.42	1.55
PP263	548184	827777	8	6	10	0.40	1.4	10.88	3.11
PP264	547751	828347	6	6	10	No peat recorded at this location			
PP265	547748	828357	6	6	10	No peat recorded at this location			
PP266	547759	828357	6	6	10	No peat recorded at this location			
PP267	547761	828349	6	6	10	No peat recorded at this location			
PP268	544010	828500	3	6	10	2.80	3.8	4.10	3.02
PP269	544013	828477	3	6	10	2.60	3.6	4.42	3.19
PP270	544028	828490	3	6	10	3.00	4.0	3.83	2.87
PP271	543997	828485	3	6	10	2.80	3.8	4.10	3.02
Jul-24									
T05	544071	826018	4	6	10	1.80	2.8	4.79	3.08
T11	543749	826384	8	6	10	1.30	2.3	3.35	1.89
T12	543564	827060	5	6	10	1.00	2.0	6.91	3.46
T13	543353	827829	5	6	10	1.30	2.3	5.32	3.00
T14	544058	828432	3	6	10	1.80	3.1	6.38	3.76
T15	544521	829002	4	6	10	0.20	1.2	43.11	7.19
T16	545301	828705	7	6	10	No peat recorded at this location			
T17	545372	828200	11	6	10	No peat recorded at this location			
T18	546108	828375	10	6	10	0.20	1.5	17.54	2.42
T19	546680	828906	3	6	10	No peat recorded at this location			
T25	547203	828586	4	6	10	1.80	3.1	4.79	2.83
T23	547446	829155	8	6	10	0.90	1.9	4.84	2.29
T20	547732	828405	5	6	10	1.00	2.0	6.91	3.46
T21	548288	828231	4	6	10	1.20	2.2	7.19	3.92
T22	548850	827478	12	6	10	1.10	2.1	2.68	1.40
SS01	543669	829073	3	6	10	0.20	1.2	57.40	9.57
SS02	543802	829088	5	6	10	1.10	2.1	6.28	3.29
SS03	544927	829083	10	6	10	0.60	1.6	5.85	2.19

Calculated FoS of Natural Peat Slopes for Crumhach Wind Farm - Undrained Analysis									
Turbine No./Waypoint	Easting	Northing	Slope	Undrained shear strength	Bulk unit weight of Peat	Peat Depth	Surcharge Equivalent Placed Fill Depth (m)	Factor of Safety for Load Condition	
			β (deg)	c_u (kPa)	γ (kN/m ³)	(m)	Condition (2)	Condition (1)	Condition (2)
SS04	545005	829094	16	6	10	0.40	1.4	5.66	1.62
SS05	547162	828676	5	6	10	1.50	2.5	4.61	2.76
SS06	547279	828666	8	6	10	0.60	1.6	7.26	2.72
PP01	548589	827558	7	6	10	2.20	3.2	2.25	1.55
PP02	548571	827708	6	6	10	1.80	2.8	3.21	2.06
PP03	548464	827908	5	6	10	No peat recorded at this location			
PP04	548296	828014	12	6	10	No peat recorded at this location			
PP05	547995	828216	4	6	10	1.50	2.5	5.75	3.45
PP06	548037	828292	4	6	10	0.80	1.8	10.78	4.79
PP07	547250	828549	2	6	10	2.50	3.5	6.88	4.92
PP08	547289	828967	3	6	10	4.60	5.6	2.50	2.05
PP09	546966	828551	2	6	10	5.40	6.4	3.19	2.69
PP10	546732	828788	2	6	10	7.20	8.2	2.39	2.10
PP11	546476	828659	5	6	10	No peat recorded at this location			
PP12	545796	828181	5	6	10	No peat recorded at this location			
PP13	546552	828534	2	6	10	4.50	5.5	3.82	3.13
PP14	545457	828504	3	6	10	2.00	3.0	5.74	3.83
PP15	544377	829142	4	6	10	0.50	1.5	17.24	5.75
PP16	543785	827285	3	6	10	0.90	1.9	12.76	6.04
PP17	543565	827590	4	6	10	1.30	2.3	6.63	3.75
PP18	543690	827211	2	6	10	3.00	4.0	5.73	4.30
PP19	543802	826040	6	6	10	1.60	2.6	3.61	2.22
PP20	543547	826619	5	6	10	2.00	3.0	3.46	2.30
PP21	543430	826942	5	6	10	1.00	2.0	6.91	3.46
PP22	544027	826116	4	6	10	0.70	1.7	12.32	5.07
PP23	544113	826650	5	6	10	0.90	1.9	7.68	3.64
PP24	543955	827165	3	6	10	1.70	2.7	6.75	4.25
PP25	543860	827836	5	6	10	0.90	1.9	7.68	3.64
PP26	543786	828253	3	6	10	0.50	1.5	22.96	7.65

Minimum =	2.01	1.40
Maximum =	86.22	13.75
Average =	9.23	3.59

Notes:

- (1) Assuming a bulk unit weight for peat of 10kN/m³
- (2) Assuming a surcharge equivalent to fill depth of 1m of peat i.e. 10kPa.
- (3) Slope inclination (β) based on site readings and site contour plans.
- (4) A lower bound undrained shear strength, c_u for the peat of 6kPa was selected for the assessment. It should be noted that a c_u of 6kPa for the peat is considered a conservative value for the analysis and is not representative of all peat present across the site. In reality the peat has a significantly higher undrained strength.
- (5) Peat depths based on probes carried out by FT, HES and MKO.
- (6) For load conditions see report text.

Calculated FoS of Natural Peat Slopes for Crunhach Wind Farm - Drained Analysis											
Turbine No./Waypoint	Slope	Design c'	Bulk unit weight of Peat	Unit weight of Water	100% Water to height of Peat	Depth of In situ Peat	Friction Angle	Surcharge Equivalent Placed Fill	Equivalent Total Depth of Peat (m)	Factor of Safety for Load Condition	
	α (deg)	c' (kPa)	γ (kN/m³)	γ _w (kN/m³)	(m)	(m)	ø' (deg)	Condition (2)	Condition (2)	Condition (1)	Condition (2)
										100% Water	100% Water
T01	5	4	10.0	10.0	1.6	1.60	25	1.0	2.6	2.88	3.82
T02	3	4	10.0	10.0	2.4	2.40	25	1.0	3.4	3.19	4.87
T03	5	4	10.0	10.0	2.1	2.10	25	1.0	3.1	2.19	3.21
T04	5	4	10.0	10.0	2.7	2.70	25	1.0	3.7	1.71	2.69
T05	5	4	10.0	10.0	2.2	2.20	25	1.0	3.2	2.09	3.11
T06	3	4	10.0	10.0	3.0	3.00	25	1.0	4.0	2.55	4.14
T07	12	4	10.0	10.0	0.6	0.60	25	1.0	1.6	3.28	2.60
T08	8	4	10.0	10.0	0.5	0.50	25	1.0	1.5	5.80	4.15
T09	12	4	10.0	10.0	1.0	1.00	25	1.0	2.0	1.97	2.08
T10	4	4	10.0	10.0	0.5	0.50	25	1.3	1.8	11.50	8.05
T11	8	4	10.0	10.0	0.9	0.90	25	1.0	1.9	3.22	3.27
T12	4	4	10.0	10.0	2.0	2.00	25	1.0	3.0	2.87	4.14
T13	3	4	10.0	10.0	0.8	0.80	25	1.3	2.1	9.57	9.16
T14	6	4	10.0	10.0	2.1	2.10	25	1.0	3.1	1.83	2.67
T15	10	4	10.0	10.0	1.2	1.20	25	1.0	2.2	1.95	2.27
T16	9	4	10.0	10.0	1.6	1.60	25	1.0	2.6	1.62	2.13
T17	6	4	10.0	10.0	1.5	1.50	25	1.0	2.5	2.57	3.31
Substation	4	4	10.0	10.0	2.0	2.00	25	1.00	3.0	2.87	4.14
Lidar (west)	6	4	10.0	10.0	1.6	1.60	25	1.0	2.6	2.40	3.19
TCC (1)	4	4	10.0	10.0	2.3	2.30	25	1.0	3.3	2.50	3.76
TCC (2)	5	4	10.0	10.0	2.9	2.90	25	1.0	3.9	1.59	2.55
TCC (3)	5	4	10.0	10.0	0.4	0.40	25	1.0	1.4	11.52	7.10
TCC (SS)	3	4	10.0	10.0	1.5	1.50	25	1.0	2.5	5.10	6.62
Borrow Pit 1	3	4	10.0	10.0	0.9	0.90	25	1.0	1.9	8.50	8.71
Borrow Pit 2	12	4	10.0	10.0	1.0	1.00	25	1.0	2.0	1.97	2.08
Borrow Pit 3	20	4	10.0	10.0	0.3	0.30	25	1.0	1.3	4.15	1.94
Peat storage T01	5	4	10.0	10.0	1.7	1.70	25	1.25	3.0	2.71	3.82
Peat storage T02	3	4	10.0	10.0	2.2	2.20	25	1.25	3.5	3.48	5.44
Peat storage T03	4	4	10.0	10.0	2.4	2.40	25	1.25	3.7	2.40	3.86
Peat storage T04	3	4	10.0	10.0	2.0	2.00	25	1.25	3.3	3.83	5.78
Peat storage T06	4	4	10.0	10.0	3.0	3.00	25	1.25	4.3	1.92	3.31
Peat storage T10	10	4	10.0	10.0	0.2	0.20	25	1.25	1.5	11.70	3.89
Peat storage T11	7	4	10.0	10.0	0.6	0.60	25	1.25	1.9	5.51	4.35
Peat storage T12	4	4	10.0	10.0	4.3	4.30	25	1.25	5.6	1.53	2.90
Peat storage T13	3	4	10.0	10.0	3.2	3.20	25	1.25	4.5	2.39	4.22
Peat storage T17	6	4	10.0	10.0	1.5	1.50	25	1.25	2.8	2.57	3.42
Peat storage Substation	4	4	10.0	10.0	2.0	2.00	25	1.25	3.3	2.87	4.33
Additional											
18	2	4	10.0	10.0	1.7	1.70	25	1.0	2.7	6.75	9.19
21	13	4	10.0	10.0	0.3	0.30	25	1.0	1.3	6.08	2.96
57	6	4	10.0	10.0	1.0	1.00	25	1.0	2.0	3.85	4.14
68	2	4	10.0	10.0	3.9	3.90	25	1.0	4.9	2.94	5.07
156	3	4	10.0	10.0	1.0	1.00	25	1.0	2.0	7.65	8.28
479	5	4	10.0	10.0	2.3	2.30	25	1.0	3.3	2.00	3.01
508	4	4	10.0	10.0	1.9	1.90	25	1.0	2.9	3.03	4.28
509	4	4	10.0	10.0	0.1	0.10	25	1.0	1.1	57.48	11.29
519	2	4	10.0	10.0	3.2	3.20	25	1.0	4.2	3.58	5.91
527	4	4	10.0	10.0	1.5	1.50	25	1.0	2.5	3.83	4.97
549	5	4	10.0	10.0	1.7	1.70	25	1.0	2.7	2.71	3.68
565	8	4	10.0	10.0	1.2	1.20	25	1.0	2.2	2.42	2.83
569	5	4	10.0	10.0	2.4	2.40	25	1.0	3.4	1.92	2.92
570	5	4	10.0	10.0	1.5	1.50	25	1.0	2.5	3.07	3.97
573	0	4	10.0	10.0	No peat recorded at this location						
578	0	4	10.0	10.0	No peat recorded at this location						
595	10	4	10.0	10.0	0.1	0.10	25	1.0	1.1	23.39	4.53
601	9	4	10.0	10.0	1.0	1.00	25	1.0	2.0	2.59	2.77
618	8	4	10.0	10.0	0.4	0.40	25	1.0	1.4	7.26	4.44
624	4	4	10.0	10.0	0.8	0.80	25	1.0	1.8	7.19	6.90
653	12	4	10.0	10.0	0.8	0.80	25	1.0	1.8	2.46	2.31
659	8	4	10.0	10.0	0.5	0.50	25	1.0	1.5	5.80	4.15
859	7.5	4	10.0	10.0	1.2	1.20	25	1.0	2.2	2.58	3.01
898	12	4	10.0	10.0	1.0	1.00	25	1.0	2.0	1.97	2.08
915	3	4	10.0	10.0	3.2	3.20	25	1.25	4.5	2.39	4.22
958	4	4	10.0	10.0	3.3	3.30	25	1.0	4.3	1.74	2.89
960	4	4	10.0	10.0	1.4	1.40	25	1.0	2.4	4.11	5.17
967	1	4	10.0	10.0	5.0	5.00	25	1.0	6.0	4.58	8.27
974	2.5	4	10.0	10.0	2.0	2.00	25	1.0	3.0	4.59	6.62
978	3.5	4	10.0	10.0	2.5	2.50	25	1.0	3.5	2.63	4.05
984	4.5	4	10.0	10.0	2.5	2.50	25	1.0	3.5	2.05	3.15
May-25											
PP100	6	4	10.0	10.0	2.3	2.30	25	1.0	3.3	1.67	2.51
PP101	6	4	10.0	10.0	2.2	2.20	25	1.0	3.2	1.75	2.59
PP102	3	4	10.0	10.0	0.5	0.50	25	1.0	1.5	15.31	11.03
PP103	3	4	10.0	10.0	1.0	1.00	25	1.0	2.0	7.65	8.28
PP104	4	4	10.0	10.0	2.4	2.40	25	1.25	3.7	2.40	3.86
PP105	7	4	10.0	10.0	0.5	0.50	25	1.0	1.5	6.61	4.74
PP106	3	4	10.0	10.0	0.9	0.90	25	1.0	1.9	8.50	8.71
PP107	3	4	10.0	10.0	1.8	1.80	25	1.25	3.1	4.25	6.16
PP108	7	4	10.0	10.0	1.7	1.70	25	1.25	3.0	1.95	2.73
PP109	3	4	10.0	10.0	0.8	0.80	25	1.0	1.8	9.57	9.20
PP110	6	4	10.0	10.0	2.0	2.00	25	1.0	3.0	1.92	2.76
PP111	1	4	10.0	10.0	1.5	1.50	25	1.0	2.5	15.28	19.86
PP112	6	4	10.0	10.0	1.5	1.50	25	1.0	2.5	2.57	3.31
PP113	3	4	10.0	10.0	3.3	3.30	25	1.25	4.6	2.32	4.13
PP114	3	4	10.0	10.0	#REF!	No peat recorded at this location					
PP115	4	4	10.0	10.0	at recorded at this l	No peat recorded at this location					
PP116	3	4	10.0	10.0	2.0	2.00	25	1.25	3.3	3.83	5.78
PP117	3	4	10.0	10.0	2.2	2.20	25	1.25	3.5	3.48	5.44
PP118		4	10.0	10.0	at recorded at this l	No peat recorded at this location					
PP119	4	4	10.0	10.0	1.5	1.50	25	1.0	2.5	3.83	4.97
PP120	3	4	10.0	10.0	0.8	0.80	25	1.0	1.8	9.57	9.20
PP121	3	4	10.0	10.0	1.0	1.00	25	1.0	2.0	7.65	8.28
PP122	8	4	10.0	10.0	0.7	0.70	25	1.0	1.7	4.15	3.66

Calculated FoS of Natural Peat Slopes for Crunhach Wind Farm - Drained Analysis													
Turbine No./Waypoint	Slope	Design c'	Bulk unit weight of Peat	Unit weight of Water	100% Water to height of Peat	Depth of In situ Peat	Friction Angle	Surcharge Equivalent Placed Fill	Equivalent Total Depth of Peat (m)	Factor of Safety for Load Condition			
	α (deg)	c' (kPa)	γ (kN/m³)	γ _w (kN/m³)	(m)	(m)	ø' (deg)	Condition (2)	Condition (2)	Condition (1)	Condition (2)		
										100% Water	100% Water		
PP123	7	4	10.0	10.0	0.3	0.30	25	1.0	1.3	11.02	5.47		
PP124	3	4	10.0	10.0	0.9	0.90	25	1.0	1.9	8.50	8.71		
PP125	5	4	10.0	10.0	1.0	1.00	25	1.0	2.0	4.61	4.97		
PP126	5	4	10.0	10.0	2.4	2.40	25	1.0	3.4	1.92	2.92		
PP127	7	4	10.0	10.0	2.4	2.40	25	1.0	3.4	1.38	2.09		
PP128	4	4	10.0	10.0	2.7	2.70	25	1.0	3.7	2.13	3.36		
PP129	3	4	10.0	10.0	2.3	2.30	25	1.0	3.3	3.33	5.02		
PP130	3	4	10.0	10.0	2.0	2.00	25	1.0	3.0	3.83	5.52		
PP131	4	4	10.0	10.0	3.0	3.00	25	1.0	4.0	1.92	3.10		
PP132	5	4	10.0	10.0	3.1	3.10	25	1.0	4.1	1.49	2.42		
PP133	3	4	10.0	10.0	4.0	4.00	25	1.0	5.0	1.91	3.31		
PP134	4	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP135	4	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP136	7	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP137	6	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP138	9	4	10.0	10.0	0.4	0.40	25	1.0	1.4	6.47	3.95		
PP139	4	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP140	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP141	5	4	10.0	10.0	0.4	0.40	25	1.0	1.4	11.52	7.10		
PP142	3	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP143	3	4	10.0	10.0	0.4	0.40	25	1.0	1.4	19.13	11.82		
PP144	3	4	10.0	10.0	0.2	0.20	25	1.0	1.2	38.27	13.79		
PP145	3	4	10.0	10.0	0.4	0.40	25	1.0	1.4	19.13	11.82		
PP146	4	4	10.0	10.0	0.4	0.40	25	1.0	1.4	14.37	8.87		
PP147	3	4	10.0	10.0	0.4	0.40	25	1.0	1.4	19.13	11.82		
PP148	4	4	10.0	10.0	0.4	0.40	25	1.0	1.4	14.37	8.87		
PP149	4	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP150		4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP151	4	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP152	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP153	15	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP154	15	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP155	3	4	10.0	10.0	0.6	0.60	25	1.0	1.6	12.76	10.34		
PP156	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP157	4	4	10.0	10.0	0.8	0.80	25	1.0	1.8	7.19	6.90		
PP158	4	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP159	7	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP160	8	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP161	10	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP162	8	4	10.0	10.0	at recorded at this location	No peat recorded at this location							
PP163	5	4	10.0	10.0	0.3	0.30	25	1.0	1.3	15.36	7.64		
PP164	10	4	10.0	10.0									

Calculated FoS of Natural Peat Slopes for Crunhach Wind Farm - Drained Analysis											
Turbine No./Waypoint	Slope	Design c'	Bulk unit weight of Peat	Unit weight of Water	100% Water to height of Peat	Depth of In situ Peat	Friction Angle	Surcharge Equivalent Placed Fill	Equivalent Total Depth of Peat (m)	Factor of Safety for Load Condition	
	α (deg)	c' (kPa)	γ (kN/m³)	γ _w (kN/m³)	(m)	(m)	ø' (deg)	Condition (2)	Condition (2)	Condition (1)	Condition (2)
										100% Water	100% Water
PP221	8	4	10.0	10.0	2.0	2.00	25	1.25	3.3	1.45	2.17
PP222	5	4	10.0	10.0	1.5	1.50	25	1.0	2.5	3.07	3.97
PP223	5	4	10.0	10.0	1.8	1.80	25	1.0	2.8	2.56	3.55
PP224	5	4	10.0	10.0	0.9	0.90	25	1.0	1.9	5.12	5.23
PP225	5	4	10.0	10.0	1.8	1.80	25	1.0	2.8	2.56	3.55
PP226	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP227	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP228	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP229	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP230	4	4	10.0	10.0	2.7	2.70	25	1.0	3.7	2.13	3.36
PP231	4	4	10.0	10.0	2.7	2.70	25	1.0	3.7	2.13	3.36
PP232	4	4	10.0	10.0	2.7	2.70	25	1.0	3.7	2.13	3.36
PP233	4	4	10.0	10.0	2.7	2.70	25	1.0	3.7	2.13	3.36
PP234	3	4	10.0	10.0	1.2	1.20	25	1.0	2.2	6.38	7.52
PP235	3	4	10.0	10.0	0.9	0.90	25	1.0	1.9	8.50	8.71
PP236	3	4	10.0	10.0	1.2	1.20	25	1.0	2.2	6.38	7.52
PP237	3	4	10.0	10.0	1.2	1.20	25	1.0	2.2	6.38	7.52
PP238	5	4	10.0	10.0	2.7	2.70	25	1.0	3.7	1.71	2.69
PP239	5	4	10.0	10.0	2.5	2.50	25	1.0	3.5	1.84	2.84
PP240	5	4	10.0	10.0	2.7	2.70	25	1.0	3.7	1.71	2.69
PP241	5	4	10.0	10.0	2.6	2.60	25	1.3	3.9	1.77	2.93
PP242	5	4	10.0	10.0	2.7	2.70	25	1.0	3.7	1.71	2.69
PP243	3	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP244	4	4	10.0	10.0	2.0	2.00	25	1.0	3.0	2.87	4.14
PP245	4	4	10.0	10.0	0.7	0.70	25	1.0	1.7	8.21	7.30
PP246	4	4	10.0	10.0	0.6	0.60	25	1.0	1.6	9.58	7.76
PP247	4	4	10.0	10.0	1.4	1.40	25	1.0	2.4	4.11	5.17
PP248	4	4	10.0	10.0	0.7	0.70	25	1.0	1.7	8.21	7.30
PP249	8	4	10.0	10.0	0.3	0.30	25	1.0	1.3	9.67	4.78
PP250	8	4	10.0	10.0	1.7	1.70	25	1.25	3.0	1.71	2.39
PP251	8	4	10.0	10.0	1.1	1.10	25	1.0	2.1	2.64	2.96
PP252	8	4	10.0	10.0	0.7	0.70	25	1.0	1.7	4.15	3.66
PP253	4	4	10.0	10.0	0.3	0.30	25	1.0	1.3	19.16	9.55
PP254	4	4	10.0	10.0	0.3	0.30	25	1.0	1.3	19.16	9.55
PP255	4	4	10.0	10.0	0.4	0.40	25	1.0	1.4	14.37	8.87
PP256	4	4	10.0	10.0	0.5	0.50	25	1.0	1.5	11.50	8.28
PP257	9	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP258	9	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP259	9	4	10.0	10.0	0.3	0.30	25	1.0	1.3	8.63	4.26
PP260	8	4	10.0	10.0	1.5	1.50	25	1.25	2.8	1.93	2.56
PP261	8	4	10.0	10.0	1.5	1.50	25	1.0	2.5	1.93	2.49
PP262	8	4	10.0	10.0	1.8	1.80	25	1.0	2.8	1.61	2.22
PP263	8	4	10.0	10.0	0.4	0.40	25	1.0	1.4	7.26	4.44
PP264	6	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP265	6	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP266	6	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP267	6	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP268	3	4	10.0	10.0	2.8	2.80	25	1.0	3.8	2.73	4.36
PP269	3	4	10.0	10.0	2.6	2.60	25	1.0	3.6	2.94	4.60
PP270	3	4	10.0	10.0	3.0	3.00	25	1.25	4.3	2.55	4.42
PP271	3	4	10.0	10.0	2.8	2.80	25	1.0	3.8	2.73	4.36
Jul-24											
T05	4	4	10.0	10.0	1.8	1.80	25	1.0	2.8	3.19	4.43
T11	8	4	10.0	10.0	1.3	1.30	25	1.0	2.3	2.23	2.70
T12	5	4	10.0	10.0	1.0	1.00	25	1.0	2.0	4.61	4.97
T13	5	4	10.0	10.0	1.3	1.30	25	1.0	2.3	3.54	4.32
T14	3	4	10.0	10.0	1.8	1.80	25	1.25	3.1	4.25	6.16
T15	4	4	10.0	10.0	0.2	0.20	25	1.0	1.2	28.74	10.35
T16	7	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
T17	11	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
T18	10	4	10.0	10.0	0.2	0.20	25	1.25	1.5	11.70	3.89
T19	3	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
T25	4	4	10.0	10.0	1.8	1.80	25	1.25	3.1	3.19	4.62
T23	8	4	10.0	10.0	0.9	0.90	25	1.0	1.9	3.22	3.27
T20	5	4	10.0	10.0	1.0	1.00	25	1.0	2.0	4.61	4.97
T21	4	4	10.0	10.0	1.2	1.20	25	1.0	2.2	4.79	5.64
T22	12	4	10.0	10.0	1.1	1.10	25	1.0	2.1	1.79	1.98
SS01	3	4	10.0	10.0	0.2	0.20	25	1.0	1.2	38.27	13.79
SS02	5	4	10.0	10.0	1.1	1.10	25	1.0	2.1	4.19	4.73
SS03	10	4	10.0	10.0	0.6	0.60	25	1.0	1.6	3.90	3.11
SS04	16	4	10.0	10.0	0.4	0.40	25	1.0	1.4	3.77	2.24
SS05	5	4	10.0	10.0	1.5	1.50	25	1.0	2.5	3.07	3.97
SS06	8	4	10.0	10.0	0.6	0.60	25	1.0	1.6	4.84	3.89
PP01	7	4	10.0	10.0	2.2	2.20	25	1.0	3.2	1.50	2.22
PP02	6	4	10.0	10.0	1.8	1.80	25	1.0	2.8	2.14	2.96
PP03	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP04	12	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP05	4	4	10.0	10.0	1.5	1.50	25	1.0	2.5	3.83	4.97
PP06	4	4	10.0	10.0	0.8	0.80	25	1.0	1.8	7.19	6.90
PP07	2	4	10.0	10.0	2.5	2.50	25	1.0	3.5	4.59	7.09
PP08	3	4	10.0	10.0	4.6	4.60	25	1.0	5.6	1.66	2.96
PP09	2	4	10.0	10.0	5.4	5.40	25	1.0	6.4	2.12	3.88
PP10	2	4	10.0	10.0	7.2	7.20	25	1.0	8.2	1.59	3.03
PP11	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP12	5	4	10.0	10.0	at recorded at this location	No peat recorded at this location					
PP13	2	4	10.0	10.0	4.5	4.50	25	1.0	5.5	2.55	4.51
PP14	3	4	10.0	10.0	2.0	2.00	25	1.0	3.0	3.83	5.52
PP15	4	4	10.0	10.0	0.5	0.50	25	1.0	1.5	11.50	8.28
PP16	3	4	10.0	10.0	0.9	0.90	25	1.0	1.9	8.50	8.71
PP17	4	4	10.0	10.0	1.3	1.30	25	1.0	2.3	4.42	5.40
PP18	2	4	10.0	10.0	3.0	3.00	25	1.0	4.0	3.82	6.21
PP19	6	4	10.0	10.0	1.6	1.60	25	1.0	2.6	2.40	3.19
PP20	5	4	10.0	10.0	2.0	2.00	25	1.0	3.0	2.30	3.31
PP21	5	4	10.0	10.0	1.0	1.00	25	1.0	2.0	4.61	4.97
PP22	4	4	10.0	10.0	0.7	0.70	25	1.0	1.7	8.21	7.30
PP23	5	4	10.0	10.0	0.9	0.90	25	1.0	1.9	5.12	5.23
PP24	3	4	10.0	10.0	1.7	1.70	25	1.0	2.7	4.50	6.13

Calculated FoS of Natural Peat Slopes for Crunhach Wind Farm - Drained Analysis											
Turbine No./Waypoint	Slope	Design c'	Bulk unit weight of Peat	Unit weight of Water	100% Water to height of Peat	Depth of In situ Peat	Friction Angle	Surcharge Equivalent Placed Fill	Equivalent Total Depth of Peat (m)	Factor of Safety for Load Condition	
	α (deg)	c' (kPa)	γ (kN/m ³)	γ_w (kN/m ³)	(m)	(m)	ϕ' (deg)	Condition (2)	Condition (2)	Condition (1)	Condition (2)
										100% Water	100% Water
PP25	5	4	10.0	10.0	0.9	0.90	25	1.0	1.9	5.12	5.23
PP26	3	4	10.0	10.0	0.5	0.50	25	1.0	1.5	15.31	11.03

Minimum =

1.34

1.94

Maximum =

57.48

19.86

Average =

5.89

5.11

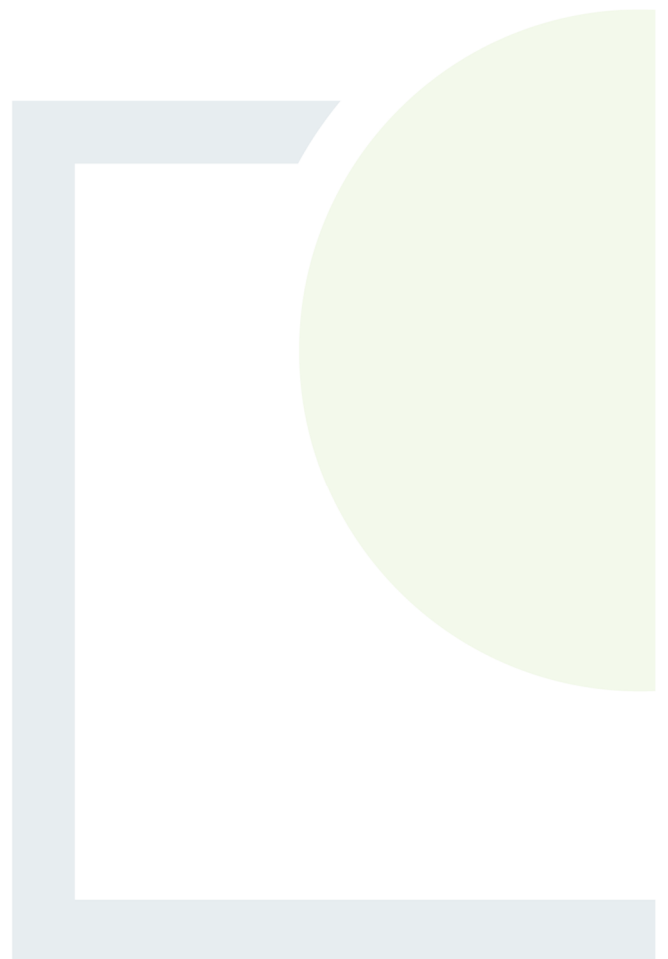
- Notes:**
- (1) Assuming a bulk unit weight of peat of 10 (kN/m³)
 - (2) Assuming a surcharge equivalent to fill depth of 1.0m.
 - (3) Slope inclination (β) based on site readings and contour survey plans of site.
 - (4) FoS is based on slope inclination and shear test results obtained from published data.
 - (5) Peat depths based on probes carried out by FT and MKO.
 - (6) For load conditions see Report text.
 - (7) Minimum acceptable factor of safety required of 1.3 for first-time failures based on BS: 6031:1981 Code of practice for Earthworks.



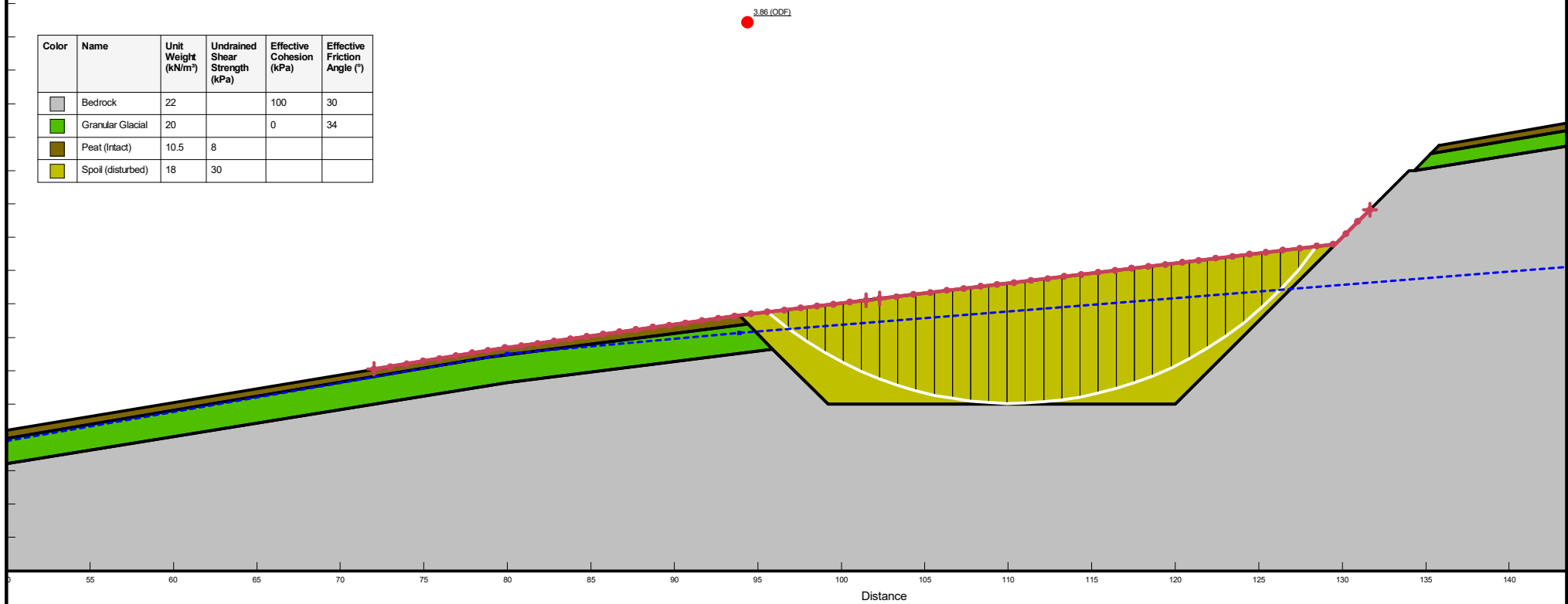
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APPENDIX D

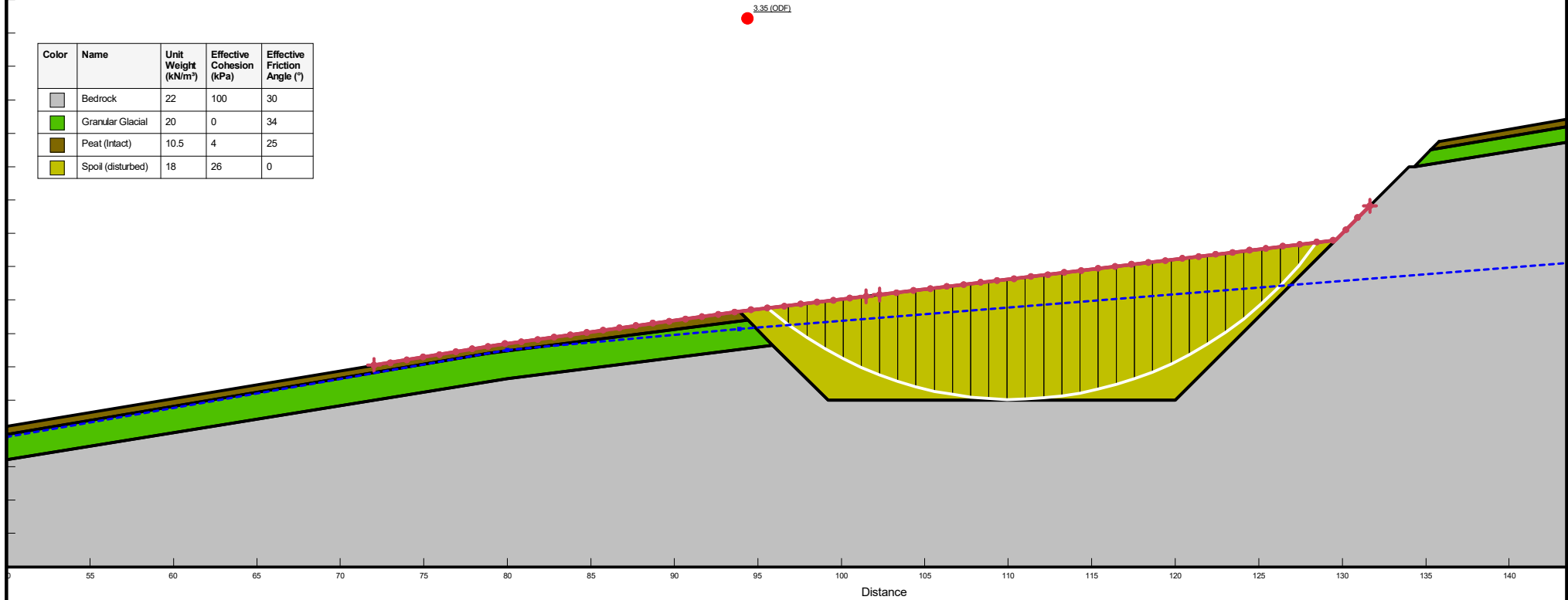
Borrow Pit Slope Stability



Color	Name	Unit Weight (kN/m³)	Undrained Shear Strength (kPa)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22		100	30
Green	Granular Glacial	20		0	34
Brown	Peat (Intact)	10.5	8		
Yellow	Spoil (disturbed)	18	30		



Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22	100	30
Green	Granular Glacial	20	0	34
Brown	Peat (Intact)	10.5	4	25
Yellow	Spoil (disturbed)	18	26	0



Slope Stability (DA1C1)

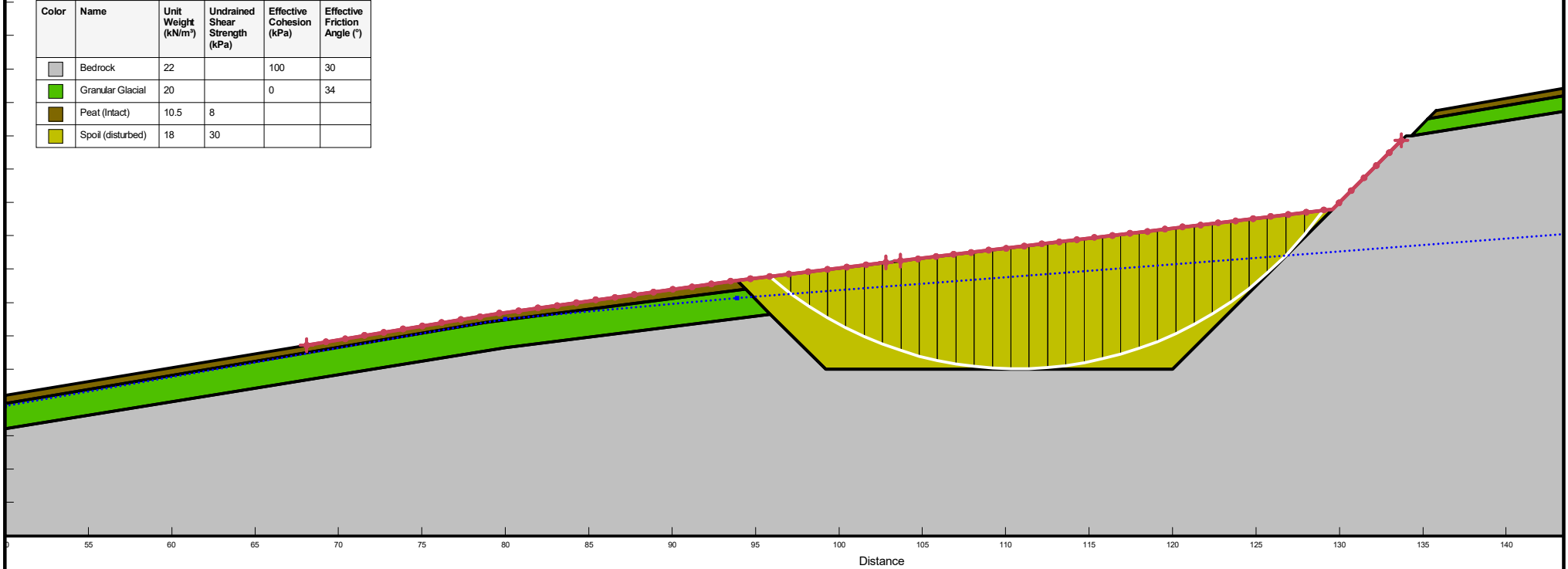
Borrow Pit 2 DR.gsz

09/04/2026

1:350

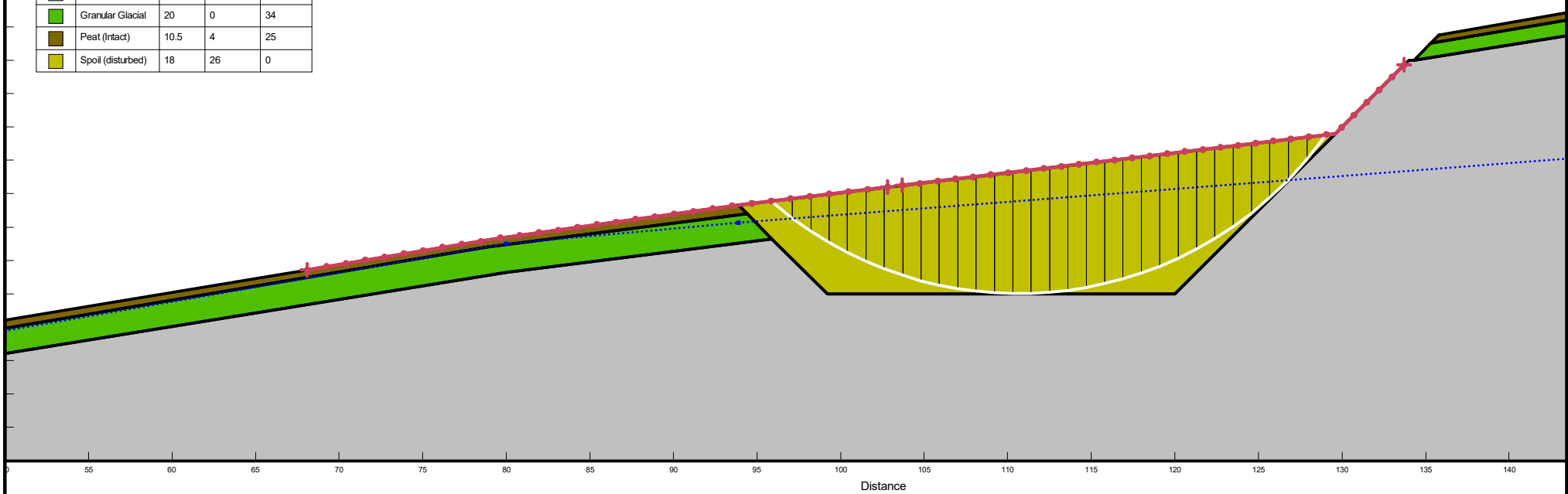
Color	Name	Unit Weight (kN/m³)	Undrained Shear Strength (kPa)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22		100	30
Green	Granular Glacial	20		0	34
Brown	Peat (Intact)	10.5	8		
Yellow	Spoil (disturbed)	18	30		

2.73 (CDF)



Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22	100	30
Green	Granular Glacial	20	0	34
Brown	Peat (Intact)	10.5	4	25
Yellow	Spoil (disturbed)	18	26	0

2.65 (CDF)



Slope Stability (DA1C2)

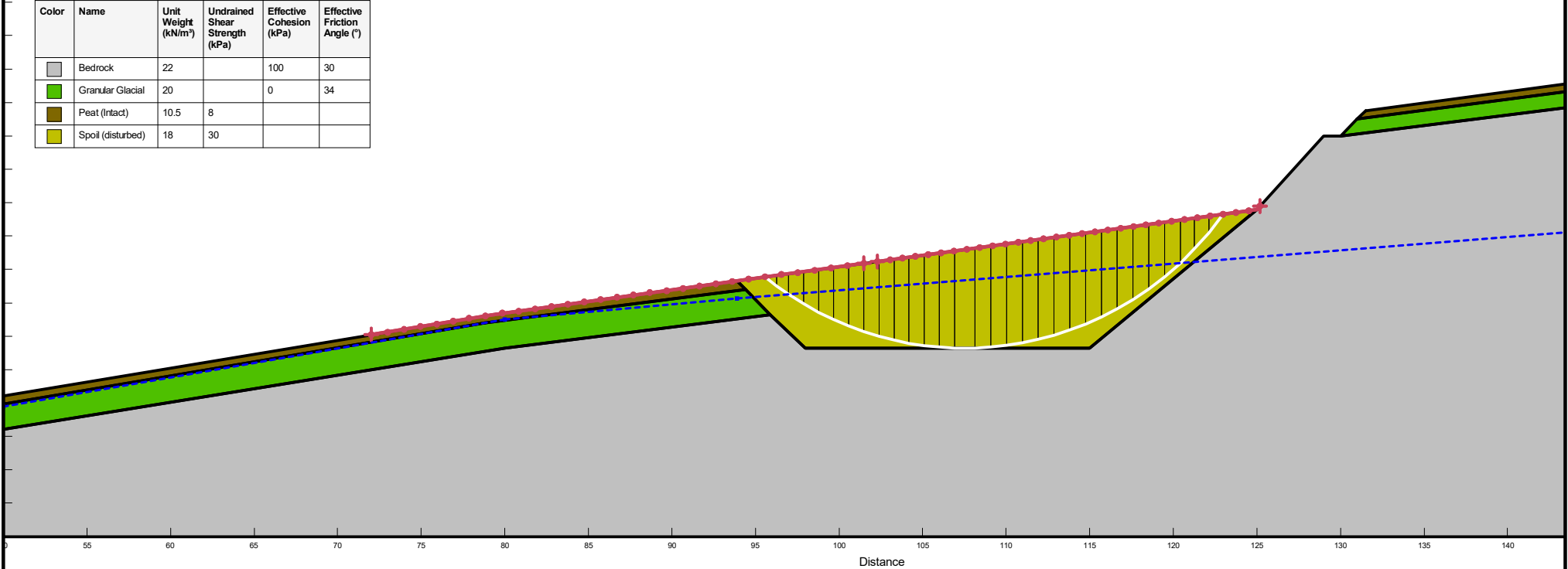
Borrow Pit 2 DR.gsz

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Color	Name	Unit Weight (kN/m³)	Undrained Shear Strength (kPa)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22		100	30
Green	Granular Glacial	20		0	34
Brown	Peat (Intact)	10.5	8		
Yellow	Spoil (disturbed)	18	30		

4.07 (ODF)



Slope Stability (DA1C1)

Borrow Pit 3 UD.gsz

09/04/2026

1:350

Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22	100	30
Green	Granular Glacial	20	0	34
Brown	Peat (Intact)	10.5	4	25
Yellow	Spoil (disturbed)	18	26	0

3.53 (ODF)

Distance

Slope Stability (DA1C1)

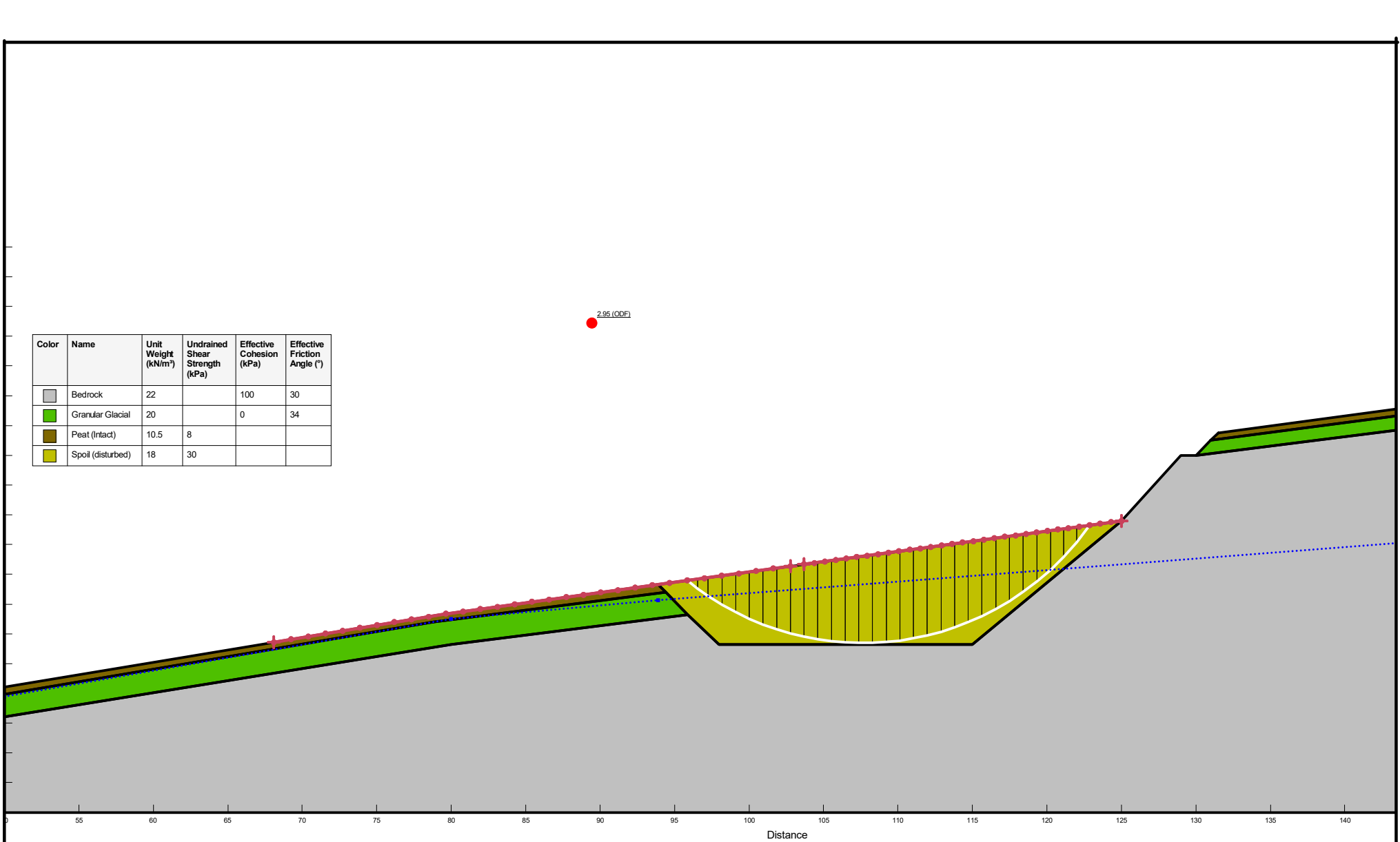
Borrow Pit 3 DR.gsz

09/04/2026

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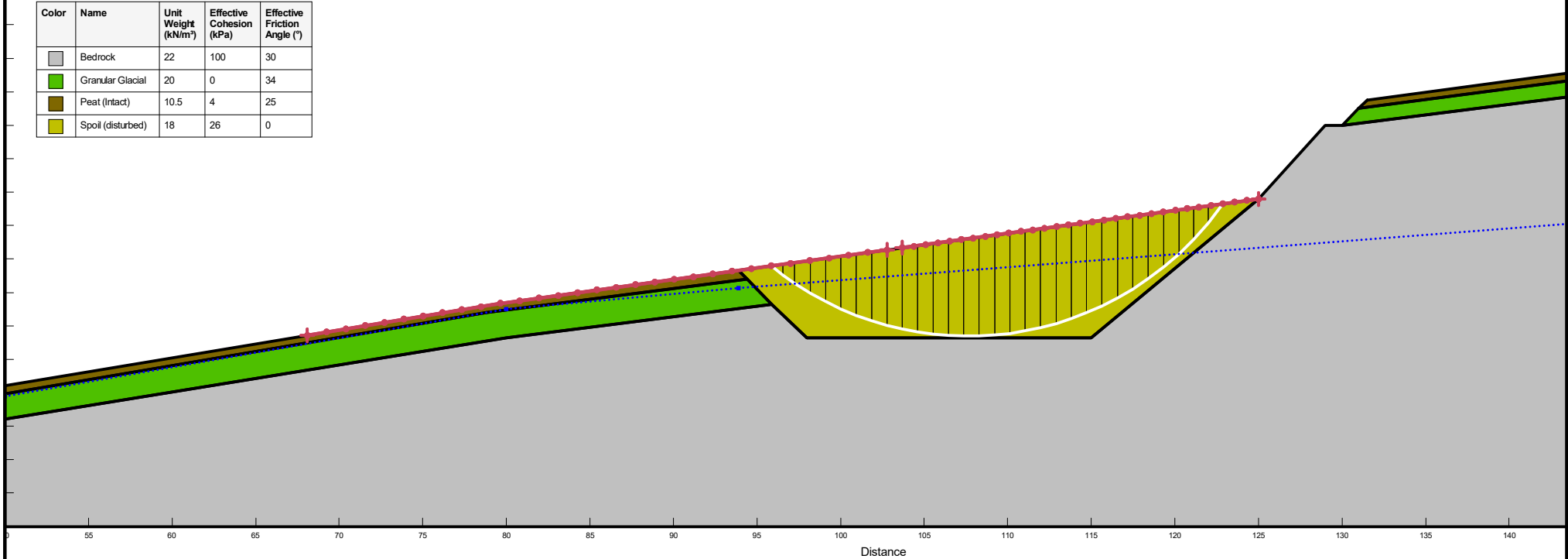
Color	Name	Unit Weight (kN/m³)	Undrained Shear Strength (kPa)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22		100	30
Green	Granular Glacial	20		0	34
Brown	Peat (Intact)	10.5	8		
Yellow	Spoil (disturbed)	18	30		

2.95 (ODF)



Color	Name	Unit Weight (kN/m³)	Effective Cohesion (kPa)	Effective Friction Angle (°)
Grey	Bedrock	22	100	30
Green	Granular Glacial	20	0	34
Brown	Peat (Intact)	10.5	4	25
Yellow	Spoil (disturbed)	18	26	0

2.86 (ODF)



Slope Stability (DA1C2)

Borrow Pit 3 DR.gsz

09/04/2026

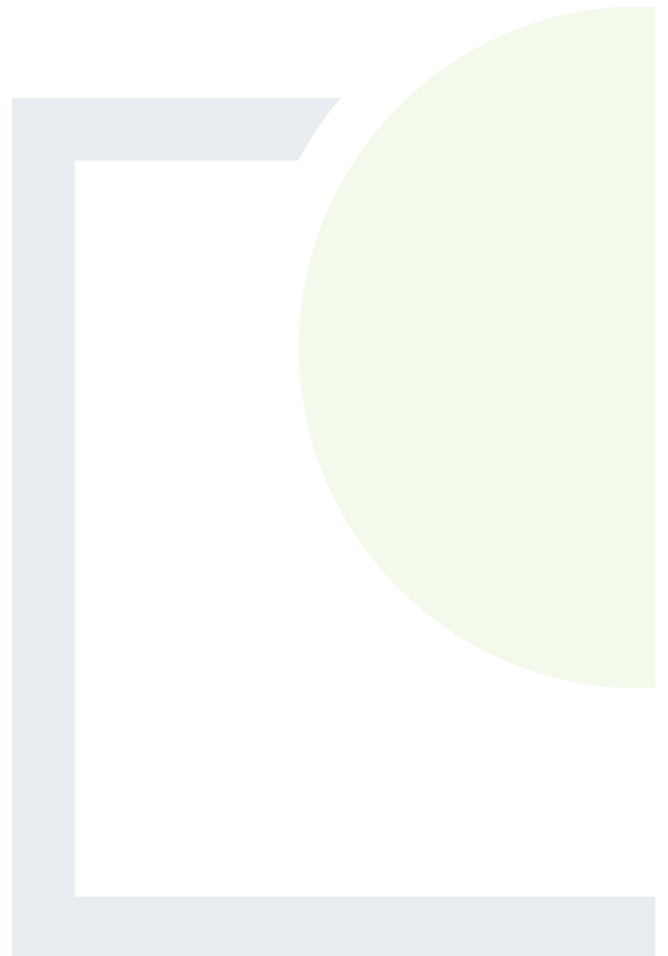
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APPENDIX E

Methodology for Peat
Stability Risk Assessment



Methodology for Peat Stability Risk Assessment

A peat stability risk assessment was carried out for each of the main infrastructure elements at the proposed wind farm development. This approach takes into account guidelines for geotechnical/peat stability risk assessments as given in PLHRAG (2017) and MacCulloch (2005). The degree of risk is determined as a Risk Rating (R), which is the product of probability (P) and impact (I). How these factors are determined and applied in the analysis is described below.

The main approaches for assessing peat stability include the following:

- (a) Geomorphological
- (b) Qualitative (judgement)
- (c) Index/Probabilistic (probability)
- (d) Deterministic (factor of safety)

Approaches (a) to (c) listed above would be considered subjective and do not provide a definitive indication of stability; in addition, a high level of judgement/experience is required which makes it difficult to relate the findings to real conditions. FT apply a more objective approach, the deterministic approach. As part of FT's deterministic approach, a qualitative risk assessment is also carried out taking into account qualitative factors, which cannot necessarily be quantified.

Probability

The likelihood of a peat failure occurring was assessed based on the results of both the quantitative results of stability calculations (deterministic approach using factors of safety) and the assessment of the severity of several qualitative factors which cannot be reasonably included in a stability calculation but nevertheless may affect the occurrence of peat instability.

The qualitative factors used in the risk assessment are outlined in Table A and have been compiled based on FT's experience of assessments and construction in peat land sites and peat failures throughout Ireland and the UK.

Table A: Qualitative Factors used to Assess Potential for Peat Failure

Qualitative Factor	Type of Feature/Indicator for each Qualitative Factor ⁽¹⁾	Explanation/Description of Qualitative Factor
Evidence of sub peat water flow	No	Based on site walkover observations. Sub peat water flow generally occurs in the form of natural piping at the base of peat. Where there is a constriction or blockage in natural pipes a build-up of water can occur at the base of the peat causing a reduction in effective stress at the base of the peat resulting in failure; this is particularly critical during periods of intense rainfall.
	Possibly	
	Probably	
	Yes	

Qualitative Factor	Type of Feature/Indicator for each Qualitative Factor ⁽¹⁾	Explanation/Description of Qualitative Factor
Evidence of surface water flow	Dry	Based on site walkover observations. The presence of surface water flow indicates if peat in an area is well drained or saturated and if any additional loading from the ponding of surface water onto the peat is likely.
	Localised/Flowing in drains	
	Ponded in drains	
	Springs/surface water	
Evidence of previous failures/slips	No	Based on site walkover observations. The presence of clustering of relict failures may indicate that particular pre-existing site conditions predispose a site to failure.
	In general area	
	On site	
	Within 500m of location	
Type of vegetation	Grass/Crops	Based on site walkover observations. The type of vegetation present indicates if peat in an area is well drained, saturated, etc. Vegetation that indicates wetter ground may also indicate softer underlying peat deposits.
	Improved Grass/Dry Heather	
	Wet Grassland/Juncus (Rushes)	
	Wetlands Sphagnum (Peat moss)	
General slope characteristics upslope/downslope from infrastructure location	Concave	Based on site walkover observations. Slope morphology in the area of the infrastructure location is an important factor. A number of recorded peat failures have occurred in close proximity to a convex break in slope.
	Planar to concave	
	Planar to convex	
	Convex	
Evidence of very soft/soft clay at base of peat	No	Based on inspection of exposures in general area from site walkover. Several reported peat failures identify the presence of a weak layer at the base of the peat along which shear failure has occurred.
	Yes	
Evidence of mechanically cut peat	No	Based on site walkover observations. Mechanically cut peat typically cut using a 'sausage' machine to extract

Qualitative Factor	Type of Feature/Indicator for each Qualitative Factor ⁽¹⁾	Explanation/Description of Qualitative Factor
	Yes	peat for harvesting. Areas which have been cut in this manner have been linked to peat instability. The mechanical cuts can notably reduce the intrinsic strength of the peat and also allow ingress of rainfall/surface water.
Evidence of quaking or buoyant peat	No	Based on site walkover observations. Quaking/buoyant peat is indicative of highly saturated peat, which would generally be considered to have a low strength. Quaking peat is a feature on sites that have been previously linked with peat instability.
	Yes	
Evidence of bog pools	No	Based on site walkover observations. Bog pools are generally an indicator of areas of weak, saturated peat. Commonly where there are open areas of water within peat these can be interconnected, with the result that there may be sub-surface bodies of water. The presence of bog pools have been previously linked with peat instability.
	Yes	
Other	Varies	In addition to the above features/indicators and based on site recordings the following are some of the features which may be identified: Excessively deep peat, weak peat, overly steep slope angles, etc.

Note (1) The list of features/indicators for each qualitative factor are given in increasing order of probability of leading to peat instability/failure.

It should be noted that the presence of one of the qualitative factors alone from Table A is unlikely to lead to peat instability/failure. Peat instability/failure at a site is generally the combination of a number of these factors occurring at the same time at a particular location. The probability rating assigned to the quantitative and qualitative factors is judged on a 5-point scale from 1 (indicating negligible or no probability of failure) to 5 (indicating a very likely failure), as outlined in Table B.

Table B: Probability Scale

Scale	Factor of Safety	Probability
1	1.30 or greater	Negligible/None
2	1.29 to 1.20	Unlikely
3	1.19 to 1.11	Likely
4	1.01 to 1.10	Probable
5	≤ 1.0	Very Likely

Scale	Likelihood of Qualitative Factor leading to Peat Failure	Probability of Failure
1	Negligible/None	Least
2	Unlikely	
3	Probable	
4	Likely	
5	Very Likely	Greatest

Impact

The severity of the risk is also assessed qualitatively in terms of impact. The impact of a peat failure on the environment within and beyond the immediate wind farm site is assessed based on the potential travel distance of a peat failure. Where a peat failure enters a watercourse, it can travel a considerable distance downstream. Therefore, the proximity of a potential peat failure to a drainage course is a significant indicator of the likely potential impact.

The risk is determined based on the combination of hazard and impact. A qualitative scale has been derived for the impact of the hazard based on distance of infrastructure element to a watercourse (Table C).

The location of watercourses is based on topographic maps and supplemented by site observations from walkover survey. Note that not all watercourses are shown on maps.

Table C: Impact Scale

Scale	Criteria	Impact
1	Proposed infrastructure element greater than 150m of watercourse	Negligible/None
2	Proposed infrastructure element within 150 to 101m of watercourse	Low
3	Proposed infrastructure element within 100 to 51m of watercourse	Medium

4	Proposed infrastructure element within 50 m of watercourse	High
5	Proposed infrastructure element within 50 m of watercourse, in an environmentally sensitive area	Extremely High

Risk Rating

The degree of risk is determined as the product of probability (P) and impact (I), which gives the Risk Rating (R) as follows:

The Risk Rating is calculated from: $R = P \times I$

Due to the 5-point scales used to assess Probability and Impact, the Risk Rating can range from 1 to 25 as shown in Table D.

Table D: Qualitative Risk Rating

		Probability					Risk Rating & Control Measures	
Impact		1	2	3	4	5	17 to 25	High: avoid working in area or significant control measures required
	5	5	10	15	20	25	11 to 16	Medium: notable control measures required
	4	4	8	12	16	20	5 to 10	Low: only routine control measures required
	3	3	6	9	12	15	1 to 4	Negligible: none or only routine control measures required
	2	2	4	6	8	10		
	1	1	2	3	4	5		

The risk rating is calculated individually for each contributory factor. Control measures are required to reduce the risk to at least a 'Low' risk rating. The control measures in response to the qualitative risk ratings are included in the peat stability risk registers for each main infrastructure element in Appendix B.

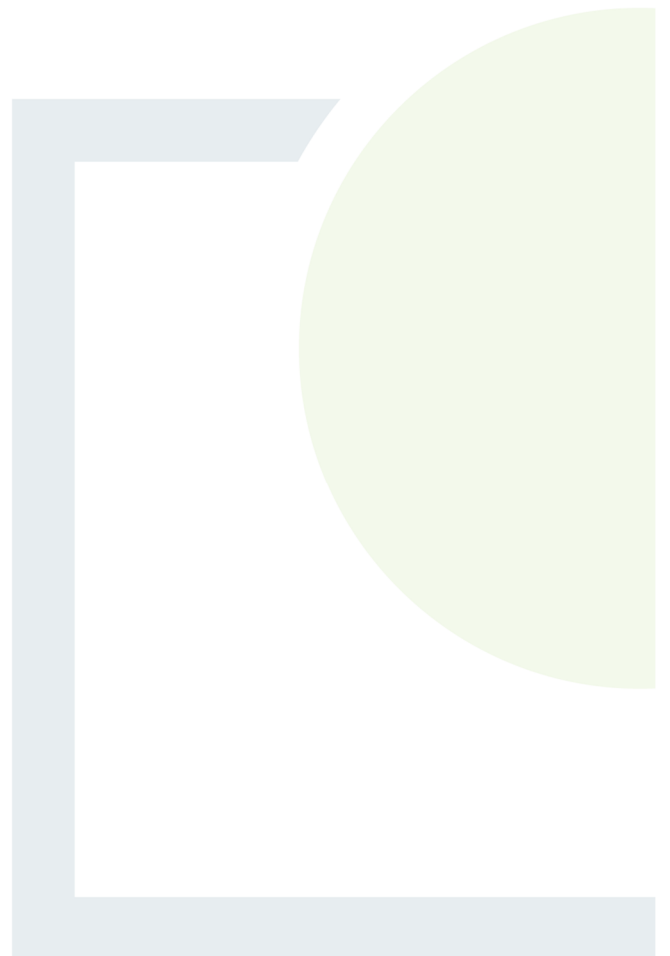
The risk rating is calculated individually for each contributory factor. Control measures are required to reduce the risk to at least a 'Tolerable' risk rating.



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APPENDIX F

Ground Investigation (IDL,
2025)



IRISH DRILLING LIMITED

LOUGHREA, CO. GALWAY, IRELAND



**CONTRACT DRILLING
SITE INVESTIGATION**

Phone: (091) 841 274
Fax: (091) 880 861

email: info@irishdrilling.ie

EASKY WIND FARM

GROUND INVESTIGATION FACTUAL REPORT

MKO,
Tuam Road,
Galway.

FTCO,
Bagenalstown Industrial Park,
Bagenalstown,
Co. Carlow,
R21 XW81.

	Prepared by	Approved by	Rev. Issue Date:	Revision No.
	Ronan Killeen	Declan Joyce	17 th September 2025	25_SO_101/01
<u>Signature</u>				

FOREWORD

The trial pit records have been compiled from an examination of the samples by a Geotechnical Engineer and from the Drillers' descriptions.

The report presents an opinion on the configuration of the strata within the site based on the trial pit results. The assumptions, though reasonable, are given for guidance only and no liability can be accepted for changes in conditions not revealed by the trial pits.

The fieldwork was carried out in accordance with IS EN 1997-2 and BS5930:2015+A1:2020 Code of Practice for Ground Investigations with precedence given to IS EN 1997-2 where applicable.

Contents:

1.0	Introduction	Page 1
2.0	The Site & Geology	Page 1
3.0	Fieldwork	Page 1
4.0	Laboratory Testing	Page 4

Book 1 of 1

Appendix 1	Trial Pit Records
Appendix 2	Laboratory Test Results
Appendix 3	Trial Pit Photographs
Appendix 4	Site Plans
Appendix 5	Digital Data (AGS)

1 Introduction.

Irish Drilling Ltd. (IDL) was instructed by FTCO Consulting Engineers, on behalf of MKO, to carry out a site investigation at the site of the proposed Easky Wind Farm.

This site investigation was carried out to provide detailed factual geotechnical information of the underlying ground conditions at the site.

The fieldwork commenced on July 15th 2025 and was completed on July 23rd 2025.

2 Site & Geology

The site is located adjacent to the existing SSE Dunneil Wind Farm near Crumhach, County Sligo.

The fieldwork was carried out predominantly on agricultural lands, forested lands and/or boglands. Weather conditions in general were quite variable with the majority of the fieldwork carried out over a typical summer period in Ireland.

Site Plans, prepared by the client's representatives to show approximate fieldwork locations, are included with this report as Appendix 4.

The following were the main published information sources used:

Geological Map of Ireland: 1:500,000 scale map series.

Site investigation data is available as point source data along the proposed route, and the majority of the ground in between the points can only be assumed to follow the characteristics of the nearest available data.

Overview of Subsoil Geology

Peat:

The deposition of peat occurred in post-glacial periods and is generally associated with the start of warmer and wetter climatic conditions. Peat is an unconsolidated usually dark brown to black organic material comprising a mixture of decomposed and undecomposed plant matter that accumulated in an acidic waterlogged environment. Peat has an extremely high-water content generally averaging over 90% by volume.

Glacial Till:

Glacial Till is what was often referred to as Boulder Clay. It is a diverse material that is largely deposited sub-glacially and has a wide range of characteristics due to the variety of parent materials and different processes of deposition. Tills are tightly packed, unsorted, heterogeneous, unbedded, and can have a wide range of particle sizes and types, which are often but not exclusively angular or sub-angular.

The type of parent material plays a critical role in providing the particles that create different subsoil permeability with sandstones giving rise to a high proportion of sand sized grains in the till matrix.

Made Ground:

Made Ground is material which has been purposefully emplaced by humans.

Solid Geology

The Geological Map of Ireland: (GSI 1:500,000 scale map series) indicate that the site is predominantly underlain by limestone and calcareous shale of the Glencar Limestone Formation.

3 Fieldwork.

3.1 Fieldwork Plant:

The following plant was mobilised to site by IDL to carry out fieldwork operations:
1nr. Hitachi Zaxis 130Tracked Excavator.

Fieldwork carried out to date has included the following:

3.2 Fieldwork Operations:

A general summary of fieldwork operations carried out to date includes the following:

- Excavation of 19nr Trial Pits.
- In-Situ sampling and testing.

3.3 Trial Pits:

Nineteen trial pits were excavated on site using a 13T wide-tracked excavator.

The pits were logged and photographed by an Engineer with observations made on ground conditions, pit stability, water ingress and services encountered.

The pits were excavated to depths ranging from 0.40m to 3.70m below ground level. Trial pits were terminated in general once target depths were achieved and/or due to pit stability issues encountered and for further details on pit terminations please refer to the trial pit logs included as Appendix 1.

Trial pit locations TP T12 and TP T16 were cancelled on site due to the possibility of the presence of underground services in the vicinity of the proposed trial pit locations and/or due to a lack of safe access.

Small and bulk disturbed soil samples were recovered at each change in strata and returned to the laboratory and presented for testing.

In-Situ testing consisting of hand shear vane tests were also carried out where possible in cohesive soils. The tests were carried out using a Edeco Pilcon DR5118 Hand Shear Vane Unit with either a 19mm vane or 33mm vane. Records of the 'corrected value' shear vane test results are included on the engineering logs included as appendix 1 of this factual report.

Detailed engineering logs for the trial pits completed are included with this report in Appendix 1.

3.5 General Summary:

The trial pit locations were set out using a Trimble CU Bluetooth GPS Surveying Unit and the co-ordinates are included on the logs presented in the appendices.

All fieldwork co-ordinates were recorded by the client's representatives and are reported to Irish Transverse Mercator (ITM).

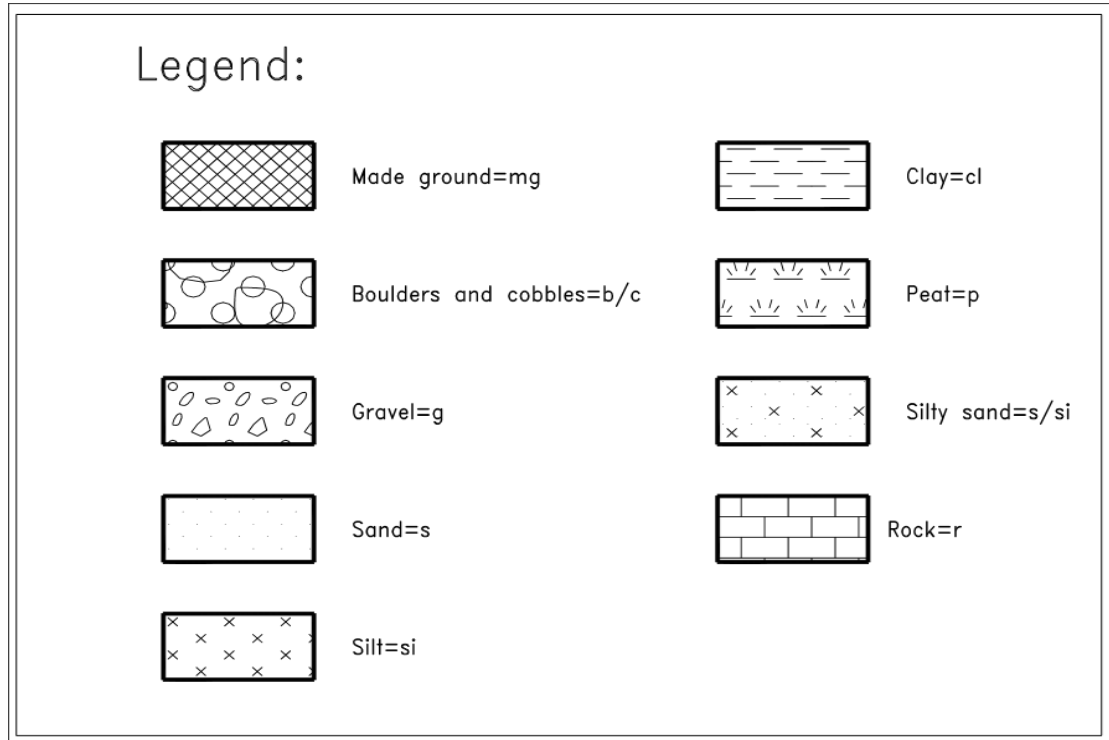
Ground conditions encountered during the completion of the fieldwork were typical and as expected for this region and predominantly consisted of Topsoil and/or Peat overlying Glacial Tills.

The Glacial Tills in general consisted of brown silty sands and gravels with cobbles and boulders and/or brown slightly gravelly sandy silt with cobbles and boulders.

Peat was encountered in many of the fieldwork locations at depths ranging from 0.30m to 2.00m below ground level.

Made Ground was also encountered at a number of trial pit locations at depths ranging from 0.20m to 3.10m below ground level.

For detailed descriptions of the ground conditions encountered please refer to the engineering logs included in the appendices of this report.



The following Key Legend Table details the symbology used on the engineering logs to describe ground conditions encountered:

The fieldwork was carried out in accordance with IS EN 1997-2 and BS5930:2015+A1:2020 Code of Practice for Site Investigations with precedence given to IS EN 1997-2 where applicable.

6.4 Laboratory Testing

Representative samples recovered from the trial pits were scheduled for testing in the laboratory.

The test schedules were prepared by the Client's Engineer and included the following tests on bulk disturbed soil samples:

Test Type:	Number
Moisture Content	13
Atterberg Limits	04
Particle Size Distribution	11
Sedimentation	02
Chemical (Sulphate Water Gravimetric)	03
Chemical (Sulphate Total)	03

The test schedules were carried out predominantly at the IDL Laboratory located at Loughrea, County Galway.

A number of specialist tests not available at the IDL laboratory were carried out by designated laboratories on a subcontract basis as follows:

Laboratory chemical tests were carried out by Envirolab, Hattersley, UK.

Envirolab, Hattersley, UK is accredited to ISO/IEC 17025:2017 (UKAS).

Soil samples in general were recovered from the excavation of trial pits and the records of all laboratory test results are included with this report as Appendix 2.

The soil and rock descriptions as noted on the borehole and trial pit logs are in general visual descriptions as observed and logged by our Engineers and are described in accordance with IS EN 1997-2 and BS5930:2015+A1:2020 Code of Practice for Site Investigations.

Soils descriptions (cohesive or otherwise) are also initially assessed based on the texture and 'feel' of the soil materials as witnessed by our Geotechnical Engineers and in accordance with IS EN 1997-2 and BS5930:2015+A1:2020.

Where laboratory classification tests have been carried out on soil and/or rock samples then these visual descriptions have been amended accordingly to take into account the results of these classification tests.

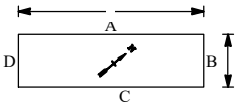
The records of all fieldwork, laboratory test results and photographs are included in the appendices of this Factual Report.

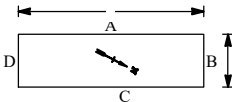
Ronan Killeen
Chartered Engineer
Irish Drilling Limited
September 17th 2025

Appendix 1

Trial Pit Records

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

PROJECT: Easky Wind Farm										TRIALPIT: TP-01	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO							Co-ordinates:		Rig: Hitachi Zaxis 130 LCN		
ENGINEER: FTCO							E 548,543.7 N 827,862.9		Rev:		
Ground level: 313.57m O.D.									DATE: 15.7.25		
GROUNDWATER							PIT DIRECTION: 40°				
Water strikes: 1st: 1.00m Rose to after: 20min 0.95m							PIT DIMENSION: 3.00m * 1.20				
2nd:							LOGGED BY: PC				
3rd:									Shoring/Support: N/A		
							Stability: Pit stable.				
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/Backfill	
0									Heather over spongy dark blackish brown pseudo fibrous PEAT. H5 B2 F2 R1 W0 TV1 TH1 A1.		
			B 1 B 2	0.50-0.60 0.50-0.60	33mm vane 60 kN/m² 65 kN/m²						
1			B 3	1.20-1.30	33mm vane 55 kN/m² 50 kN/m²		312.37	1.20			
2			B 4	2.20-2.30			311.17	2.40	Light orangish brown slightly silty SAND and subangular to subrounded fine to coarse psammite GRAVEL with occasional cobbles and occasional boulders. Sand is fine to coarse. Cobbles are subangular to subrounded of psammite. Boulders are subangular to subrounded of psammite. Boulders are up to 450mm in length.		
						END					
3											
4											
5											
Remarks: Hand vane at 0.50m bgl. Hand vane at 1.00m bgl. Ingress of surface water. Ingress of water at 1.00m bgl. TP terminated at 2.40m bgl. Obstruction as possible large boulders. TP backfilled with arisings.										Scale: 1:25	
Irish drilling LTD										Ph. Fax	

PROJECT: Easky Wind Farm										TRIALPIT: TP-03	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO							Co-ordinates:		Rig: Hitachi Zaxis 130 LCN		
ENGINEER: FTCO							E 548,170.2 N 828,091.9		Rev:		
Ground level: 293.20m O.D.									DATE: 16.7.25		
GROUNDWATER							PIT DIRECTION: 332°				
Water strikes: 1st: 3.10m Rose to after: 20min 3.10m							PIT DIMENSION: 3.60m * 1.00				
2nd:							LOGGED BY: DK				
3rd:									Shoring/Support: N/A		
									Stability: Pit moderately stable.		
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0							293.00	0.20	TOPSOIL: Soft brown fibrous PEAT.		
							292.80	0.40	MADE GROUND: Plastic dark brown amorphous PEAT. H8 B2 F1 R0 W0 TV1 TH0 A0.		
					33mm vane 10 kN/m² 12 kN/m² 10 kN/m²				MADE GROUND: Brown fibrous PEAT with occasional cobbles and occasional boulders. Cobbles are rounded to subrounded of brown schist. Boulders are rounded to subrounded of brown schist.		
1											
2											
3							290.10	3.10			
							290.00	3.20	Possible rock as orangish brown SCHIST.		
						END					
4											
5											
Remarks: Hand vane at 0.40m bgl. Ingress of surface water. Ingress of water at 3.10m bgl. TP terminated at 3.20m bgl. Obstruction as possible rock. TP backfilled with arisings.										Scale: 1:25	
Irish drilling LTD										Ph. Fax	

PROJECT: Easky Wind Farm		TRIALPIT: TP-07
LOCATION: Co Sligo		Sheet 1 of 1
CLIENT: MKO	Co-ordinates: E 546,474.2 N 828,635.7	Rig: Hitachi Zaxis 130 LCN
ENGINEER: FTCO		Rev:
Ground level: 238.63m O.D.		DATE: 17.7.25

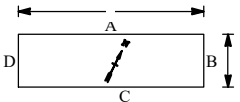
GROUNDWATER Water strikes: Rose to after: 1st: dry 2nd: 3rd:	PIT DIRECTION: 126° PIT DIMENSION: 3.30m * 1.00 LOGGED BY: DK	Shoring/Support: N/A Stability: Pit moderately stable.
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Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill
0							238.43	0.20	MADE GROUND: Clause 804 type material.	
							238.03	0.60	Stiff brown sandy gravelly SILT with occasional cobbles and occasional boulders. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of schist. Cobbles are angular to subangular of brown schist. Boulders are rounded to subrounded of brown schist.	
1			B 1 D 2	1.00-1.50 1.00-1.50					Firm damp orangish brown sandy gravelly SILT with frequent cobbles and occasional boulders. Sand is fine to medium. Gravel is subrounded to subangular fine to coarse of brown schist. Cobbles are rounded to subrounded of brown schist. Boulders are rounded to subrounded of brown schist.	
2			B 3 D 4	2.00-2.40 2.00-2.40			236.23	2.40		
						END				
3										
4										
5										

Remarks: 6" concrete storm drain at 0.40m bgl on northern eastern side of TP. TP dry on excavation. TP terminated at 2.40m bgl. Obstruction as boulders. TP backfilled with arisings.	Scale: 1:25
Irish drilling LTD	
Ph. Fax	

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

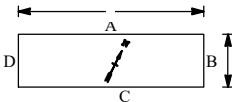
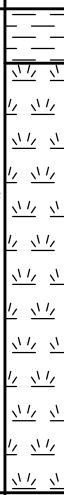
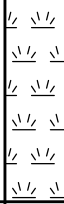
PROJECT: Easky Wind Farm		TRIALPIT: TP-T01
LOCATION: Co Sligo		Sheet 1 of 1
CLIENT: MKO	Co-ordinates: E 543,512.3 N 826,746.9	Rig: Hitachi Zaxis 130 LCN
ENGINEER: FTCO		Rev:
Ground level: 172.81m O.D.		DATE: 22.7.25

GROUNDWATER Water strikes: Rose to after: 1st: dry 2nd: 3rd:	PIT DIRECTION: 63° PIT DIMENSION: 3.40m * 1.00 LOGGED BY: DK	 Shoring/Support: N/A Stability: Pit unstable during excavation -sidewall collapse.
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Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill
0									TOPSOIL - firm brown fibrous peat.	
							172.51	0.30		
				0.50-1.00			172.31	0.50	Firm brown peaty SILT with occasional cobbles and rare boulders. Cobbles and boulders are rounded to subrounded of brown schist.	
1			B 1 						Light brown silty fine to medium SAND and subangular to subrounded fine to coarse brown schist GRAVEL with occasional cobbles. Cobbles are rounded to subrounded of brown schist.	
2			D 2 	1.50-2.00						
							170.61	2.20		
									Soft damp light brown slightly sandy gravelly SILT with occasional cobbles and boulders. Sand is fine to medium. Gravel is fine to coarse. Cobbles and boulders are rounded to subrounded of brown schist.	
3			B 3 D 4 	2.50-3.00 2.50-3.00			169.81	3.00		
						END				
4										
5										

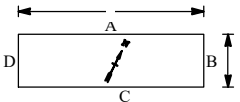
Remarks: Groundwater seepage at 1.00m depth. TP terminated at 3.00m bgl. - collapsing of pit walls. TP backfilled with arisings.	Scale: 1:25
 Irish drilling LTD	
Ph. Fax	

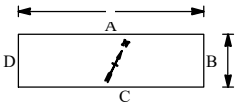
TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4, O 4,GDT 17/9/25

PROJECT: Easky Wind Farm										TRIALPIT: TP-T07	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO							Co-ordinates:		Rig: Hitachi Zaxis 130 LCN		
ENGINEER: FTCO							E 544,072.8 N 826,027.3		Rev:		
Ground level: 188.48m O.D.									DATE: 22.7.25		
GROUNDWATER							PIT DIRECTION: 63°		 Shoring/Support: N/A Stability: Pit moderately stable.		
Water strikes: 1st: 1.20m Rose to after: 20min 1.17m							PIT DIMENSION: 2.80m * 1.00				
2nd:							LOGGED BY: DK				
3rd:											
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0							188.30	0.18	TOPSOIL - brown fibrous peat.		
				0.50-1.00 0.50-1.00	33mm vane 8 kN/m² 10 kN/m²				Soft dark brown pseudo fibrous PEAT. H5,W0,TV1,TH0,A1,P1.		
1			B 1 D 2		33mm vane 6 kN/m² 7 kN/m²		186.88	1.60			
						END					
2											
3											
4											
5											
Remarks: Groundwater ingress at 1.10m depth. TP terminated at 1.60m bgl. - excavator sinking into pit. TP backfilled with arisings.										Scale: 1:25	
Irish drilling LTD										Ph. Fax	

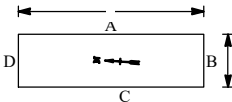
TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4, O 4.GDT 17/9/25

PROJECT: Easky Wind Farm										TRIALPIT: TP-T08	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO								Co-ordinates: E 544,586.5 N 828,957.6		Rig: Hitachi Zaxis 130 LCN	
ENGINEER: FTCO										Rev:	
Ground level: 161.16m O.D.										DATE: 23.7.25	
GROUNDWATER Water strikes: 1st: 1.10m Rose to after: 20min 1.07m 2nd: 3rd:						PIT DIRECTION: 63°		PIT DIMENSION: 3.30m * 1.00		 Shoring/Support: N/A Stability: Pit unstable during excavation -sidewall collapse.	
LOGGED BY: DK											
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0							161.06	0.10	TOPSOIL - soft brown peaty silt.		
									Firm brown slightly sandy gravelly SILT with rare cobbles. Sand is fine. Gravel is fine to coarse, subrounded to subangular. Cobbles are rounded to subrounded of brown schist.		
							160.76	0.40	Soft damp grey slightly sandy gravelly SILT with occasional cobbles. Sand is fine to medium. Gravel is fine to coarse, subrounded to subangular. Cobbles are rounded to subrounded of brown schist.		
1				1.00-1.50 1.00-1.50							
2				1.90-2.10 1.90-2.10			159.06	2.10			
						END					
3											
4											
5											
Remarks: Groundwater ingress at 1.10m depth. TP terminated at 2.10m bgl. - collapsing of pit walls. TP backfilled with arisings.										Scale: 1:25	
Irish drilling LTD										Ph. Fax	

PROJECT: Easky Wind Farm LOCATION: Co Sligo										TRIALPIT: TP-T10 Sheet 1 of 1	
CLIENT: MKO ENGINEER: FTCO							Co-ordinates: E 545,249.8 N 828,619.5			Rig: Hitachi Zaxis 130 LCN Rev:	
Ground level: 184.06m O.D.										DATE: 18.7.25	
GROUNDWATER Water strikes: Rose to after: 1st: dry 2nd: 3rd:							PIT DIRECTION: 63° PIT DIMENSION: 3.40m * 1.00 LOGGED BY: DK			 Shoring/Support: N/A Stability: Pit moderately stable.	
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0									MADE GROUND: Stiff brown slightly sandy gravelly SILT with occasional cobbles and occasional boulders and fragments of geotextile.		
1			B 1 D 2	1.00-1.50 1.00-1.50			183.16	0.90	Stiff orangish brown slightly sandy gravelly SILT with occasional cobbles. Sand is fine. Gravel is subangular to subrounded fine to coarse of brown schist. Cobbles are rounded to subrounded of brown schist.		
2			B 3	2.00-2.50			182.46	1.60	Orangish brown silty fine to medium SAND and subangular to subrounded fine to coarse brown schist GRAVEL with frequent cobbles and occasional boulders. Cobbles are angular to subangular of schist. Boulders are rounded to subrounded of brown schist.		
						END	181.36	2.70			
3											
4											
5											
Remarks: TP dry on excavation. TP terminated at 2.70m bgl. Obstruction as boulders. TP backfilled with arisings.										Scale: 1:25	
 Irish drilling LTD										Ph. Fax	

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

PROJECT: Easky Wind Farm										TRIALPIT: TP-T11	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO							Co-ordinates:		Rig: Hitachi Zaxis 130 LCN		
ENGINEER: FTCO							E 545,474.0 N 828,253.0		Rev:		
Ground level: m O.D.									DATE: 18.7.25		
GROUNDWATER							PIT DIRECTION: 176°				
Water strikes: 1st: dry 2nd: 3rd:							PIT DIMENSION: 3.70m * 1.00				
							LOGGED BY: DK				
							Shoring/Support: N/A		Stability: Pit moderately stable.		

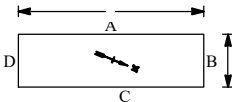
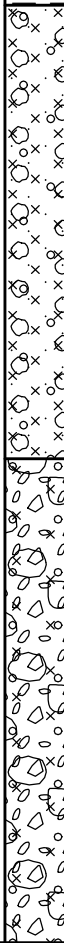
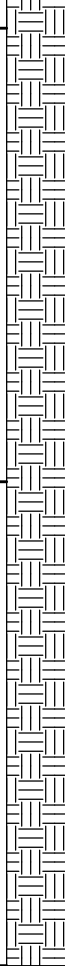
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill
0								0.20	TOPSOIL: Firm dark brown gravelly SILT.	
								0.40	MADE GROUND: Clause 804 type material and 2 to 4" down of limestone.	
						END				
1										
2										
3										
4										
5										

Remarks:	Blue plastic pipe and geo textile within trench. TP dry on excavation. TP terminated at 0.40m bgl on REs instruction. TP backfilled with arisings. Unable to record Reduced Level due to dense forestation.	Scale:	1:25
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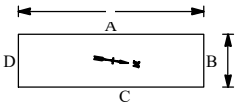


Irish drilling LTD
 Ph.
 Fax

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

PROJECT: Easky Wind Farm LOCATION: Co Sligo										TRIALPIT: TP-T13 Sheet 1 of 1	
CLIENT: MKO ENGINEER: FTCO							Co-ordinates: E 546,667.4 N 828,684.4			Rig: Hitachi Zaxis 130 LCN Rev:	
Ground level: 241.27m O.D.										DATE: 17.7.25	
GROUNDWATER Water strikes: Rose to after: 1st: dry 2nd: 3rd:							PIT DIRECTION: 338° PIT DIMENSION: 3.70m * 1.00 LOGGED BY: DK			 Shoring/Support: N/A Stability: Pit moderately stable.	
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0							241.17	0.10	TOPSOIL: Firm brown gravelly SILT.		
			B 1 B 2	0.50-1.00 0.50-1.00					Stiff brownish orange sandy gravelly SILT with occasional cobbles. Sand is fine. Gravel is subangular to subrounded fine to coarse of brown schist. Cobbles are angular to subangular of brown schist.		
							239.67	1.60	Orangish brown silty fine SAND and subangular to subrounded fine to coarse brown schist GRAVEL with frequent cobbles and occasional boulders. Cobbles are angular to subangular of brown schist. Boulders are rounded to subrounded of brown schist.		
			B 3	2.00-2.50							
			B 4	3.00-3.20			238.07	3.20			
						END					
Remarks: Ingress of surface water. TP terminated at 3.20m bgl. Obstruction as boulders. TP backfilled with arisings.											Scale: 1:25
 Irish drilling LTD											Ph. Fax

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

PROJECT: Easky Wind Farm										TRIALPIT: TP-T14	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO							Co-ordinates:		Rig: Hitachi Zaxis 130 LCN		
ENGINEER: FTCO							E 547,236.0 N 828,671.4		Rev:		
Ground level: 253.88m O.D.									DATE: 17.7.25		
GROUNDWATER							PIT DIRECTION: 351°				
Water strikes: 1st: dry 2nd: 3rd:							PIT DIMENSION: 3.70m * 1.00				
Rose to after:							LOGGED BY: DK				
							Shoring/Support: N/A		Stability: Pit unstable. Sidewall collapse from g/l.		
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0							253.73	0.15	TOPSOIL: Firm dark brown gravelly SILT.		
							253.58	0.30	Soft brown fibrous PEAT. H3 B1 F2 R1 W0 TV0 TH1 A0.		
			B 1	0.50-1.00					Brown slightly silty fine to medium SAND and subangular to subrounded fine to coarse brown schist GRAVEL with occasional cobbles. Cobbles are rounded to subrounded of brown schist.		
1											
			D 2	1.50-2.00							
2											
							251.28	2.60			
						END					
3											
4											
5											
Remarks: TP dry on excavation. TP terminated at 2.60m bgl. Unable to keep TP open - sidewall collapse. TP backfilled with arisings.										Scale: 1:25	
Irish drilling LTD										Ph. Fax	

PROJECT: Easky Wind Farm

LOCATION: Co Sligo

CLIENT: MKO

ENGINEER: FTCO

Co-ordinates:
E 547,300.6 N 829,119.4

TRIALPIT: TP-T15

Sheet 1 of 1

Rig: Hitachi Zaxis 130 LCN

Rev:

Ground level: 237.05m O.D.

DATE: 17.7.25

GROUNDWATER
Water strikes: Rose to after:
1st: dry
2nd:
3rd:

PIT DIRECTION: 343°
PIT DIMENSION: 3.60m * 1.00
LOGGED BY: DK

Shoring/Support: N/A
Stability: Pit moderately stable.

Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill
0							236.90	0.15	TOPSOIL: Soft brown peaty SILT.	
				0.50-1.00					MADE GROUND: Brown fibrous PEAT with grass and roots.	
1			B 1				235.95	1.10		
			B 2	1.50-2.00					Orangish brown silty fine to medium SAND and subangular to subrounded fine to coarse brown schist GRAVEL with occasional cobbles and occasional boulders. Cobbles are rounded to subrounded of brown schist. Boulders are rounded to subrounded of brown schist.	
2			B 3	2.50-3.00						
3							233.35	3.70		
4						END				
5										

Remarks: TP dry on excavation. TP terminated at 3.70m bgl. Obstruction as boulders. TP backfilled with arisings.

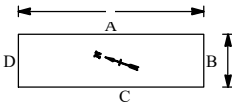
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Irish drilling LTD

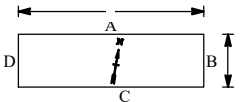
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TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4_O 4.GDT 17/9/25

PROJECT: Easky Wind Farm										TRIALPIT: TP-T17	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO							Co-ordinates:			Rig: Hitachi Zaxis 130 LCN	
ENGINEER: FTCO							E 548,236.5 N 828,249.4			Rev:	
Ground level: 335.07m O.D.										DATE: 16.7.25	
GROUNDWATER							PIT DIRECTION: 161°				
Water strikes: 1st: dry 2nd: 3rd:							PIT DIMENSION: 2.00m * 1.00				
											
							LOGGED BY: DK				
							Shoring/Support: N/A				
							Stability: Pit moderately stable.				
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0			B 1	0.10-0.50			334.97	0.10	TOPSOIL: Firm brown very gravelly SILT.		
									Possible rock. Brown SCHIST recovered as angular to subangular coarse gravel and cobble sized clasts.		
						END	334.57	0.50			
1											
2											
3											
4											
5											
Remarks: TP dry on excavation. TP terminated at 0.50m bgl. Obstruction as possible rock. TP backfilled with arisings.										Scale: 1:25	
Irish drilling LTD										Ph. Fax	

TRIALPIT EASKY WF TPS FILE 1 AUGUST 13 2025.GPJ ID GINT AGS 4.0 4.GDT 17/9/25

PROJECT: Easky Wind Farm										TRIALPIT: TP-T18	
LOCATION: Co Sligo										Sheet 1 of 1	
CLIENT: MKO							Co-ordinates:		Rig: Hitachi Zaxis 130 LCN		
ENGINEER: FTCO							E 548,536.4 N 827,444.1		Rev:		
Ground level: 293.82m O.D.									DATE: 15.7.25		
GROUNDWATER Water strikes: Rose to after: 1st: dry 2nd: 3rd:							PIT DIRECTION: 80° PIT DIMENSION: 3.00m * 1.20 LOGGED BY: PC		 Shoring/Support: N/A Stability: Pit stable.		
Depth (m)	Date	Water	Samples	Depth (m)	SPT (N) In Situ Vane Tests	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	Instrument/ Backfill	
0			B 1	0.30-0.40			293.32	0.50	Heather over light brown silty very sandy angular to subangular fine to coarse schist and psammite GRAVEL with occasional cobbles and rare boulders. Sand is fine to coarse. Cobbles are subangular to subrounded of schist and psammite. Boulders are subangular to subrounded of schist and psammite. Boulders are up to 500mm in length.		
1									Light orangish brown slightly sandy gravelly subangular to subrounded BOULDERS with occasional cobbles and rare large boulders. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of schist and psammite. Cobbles are subangular to subrounded of schist and psammite. Boulders are subangular to subrounded of schist and psammite. Large boulders are subangular to subrounded of schist and psammite.		
2			B 2	2.30-2.40			291.32	2.50			
						END					
3											
4											
5											
Remarks: Ingress of surface water. TP terminated at 2.50m bgl. Obstruction as probable rock. TP backfilled with arisings.										Scale: 1:25	
 Irish drilling LTD										Ph. Fax	

Appendix 2

Laboratory Test Results

Project ID 2025SO101
Project Name Easky Wind Farm
Schedule ID 2025SO101_1

Client MKO
Due Date 14/08/2025 09:14
Scheduled Date 14/08/2025 09:14

Remarks

Sample Details							Classification						Chemical / Concrete						Compaction		Compressibil	Strength (Total)				Stregth (Effectiv	Rock	Other															
Location	Depth (m)	Base Depth	Sample Type	Sample Ref	Date Sampled	Storage	Moisture Content	Atterberg 4 Point	Particle Density by Gas Jar	Particle Density by Small Pycnometer	Particle Size Distribution	Hydrometer	Organic Content	Loss On Ignition	Sulphate Total	Sulphate Water Gravimetric	Carbonate	pH	Chloride Content	Chloride Content	Compaction Light	Compaction	Moisture Condition	Moisture Condition	CBR	Consolidation	Swelling Pressure	Swelling Pressure	Laboratory Vane	Small Direct	Ring shear Test	Triaxial Quick	Triaxial Cell (Specify Cell	Triaxial UU Multi	Triaxial UU Multi	Consolidated	Consolidated	Undrained Triaxial	Rock Uniaxial compression	Point Load			
TP-01	0.50	0.60	B	1	15/07/25																																						
TP-01	0.50	0.60	D	2	15/07/25																																						
TP-01	1.20	1.30	B	3	15/07/25																																						
TP-01	2.20	2.30	B	4	15/07/25		1				1																																
TP-02	0.40	0.50	B	1	15/07/25																																						
TP-02	1.40	1.50	B	2	15/07/25		1				1																																
TP-04	0.50	1.00	B	1	16/07/25																																						
TP-04	0.50	1.00	D	2	16/07/25																																						
TP-04	1.50	2.00	B	3	16/07/25																																						
TP-04	1.50	2.00	D	4	16/07/25																																						
TP-04	3.00	3.50	B	5	16/07/25																																						
TP-07	1.00	1.50	B	1	17/07/25																																						
TP-07	1.00	1.50	D	2	17/07/25																																						
TP-07	2.00	2.40	B	3	17/07/25																																						
TP-07	2.00	2.40	D	4	17/07/25																																						
TP-T01	0.50	1.00	B	1	22/07/25		1				1																																
TP-T01	1.50	2.00	D	2	22/07/25		1																																				
TP-T01	2.50	3.00	B	3	22/07/25																																						
TP-T01	2.50	3.00	D	4	22/07/25																																						
TP-T02	0.50	1.00	B	1	23/07/25																																						
TP-T02	0.50	1.00	D	2	23/07/25																																						
TP-T02	1.50	2.00	B	3	23/07/25																																						
TP-T02	1.50	2.00	D	4	23/07/25		1	1																																			
TP-T02	2.50	3.00	B	5	23/07/25																																						
TP-T03	0.50	1.00	B	1	22/07/25																																						
TP-T03	0.50	1.00	D	2	22/07/25																																						
TP-T04	0.50	1.00	B	1	23/07/25																																						
TP-T04	0.50	1.00	D	2	23/07/25																																						
TP-T04	1.40	1.80	B	3	23/07/25		1				1																																
TP-T07	0.50	1.00	B	1	22/07/25																																						
TP-T07	0.50	1.00	D	2	22/07/25																																						
TP-T08	1.00	1.50	B	1	23/07/25						1	1				1	1																										Envirolab 02.09.25, Ref 25/09825
TP-T08	1.00	1.50	D	2	23/07/25		1	1																																			
TP-T08	1.90	2.10	B	3	23/07/25																																						

Project ID	2025SO101
Project Name	Easky Wind Farm
Schedule ID	2025SO101_1

Client	MKO
Due Date	14/08/2025 09:14
Scheduled Date	14/08/2025 09:14

Remarks	
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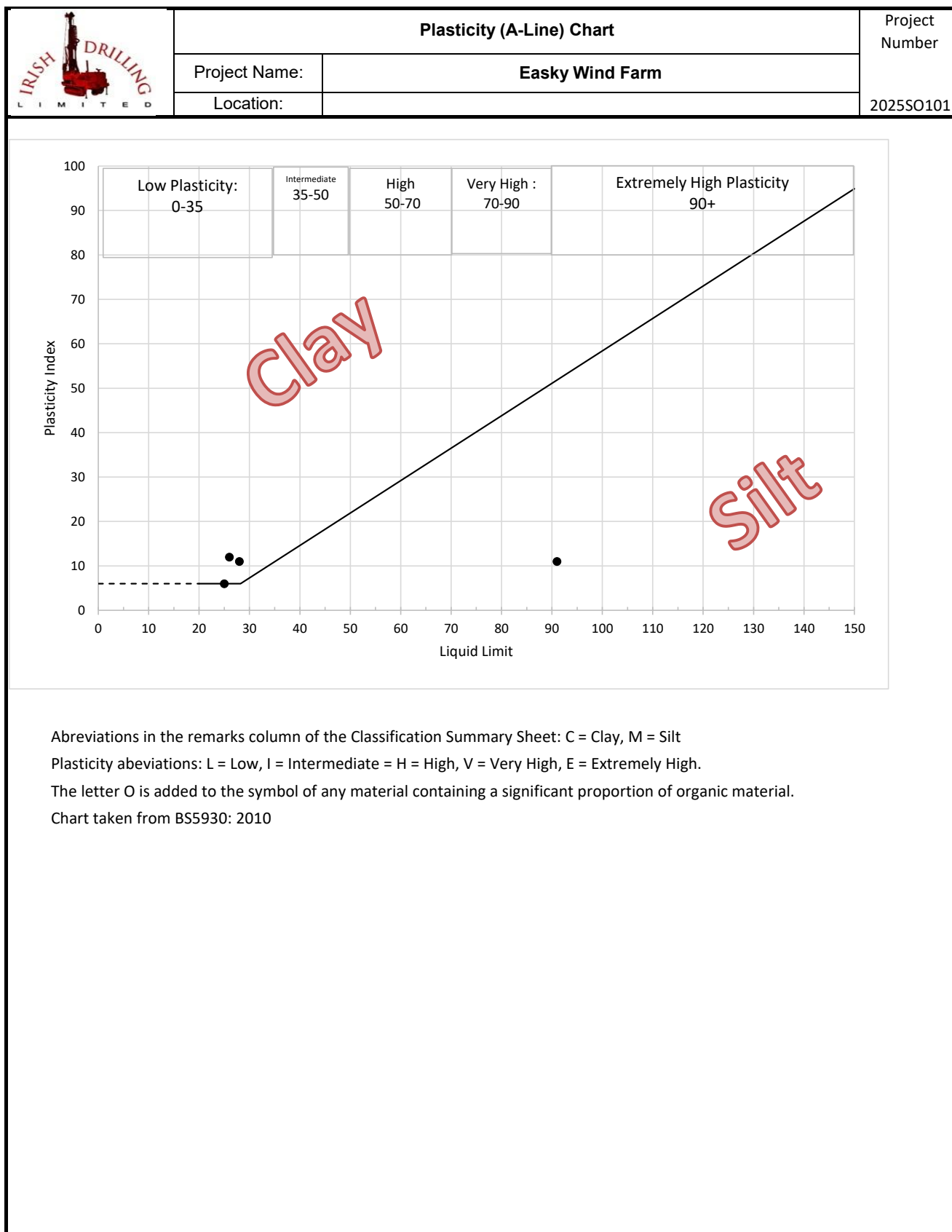
Sample Details							Classification						Chemical / Concrete						Compaction		Compressibil	Strength (Total)				Stregh (Effectiv	Rock	Other														
Location	Depth (m)	Base Depth	Sample Type	Sample Ref	Date Sampled	Storage	Moisture Content	Atterberg 4 Point	Particle Density by Gas Jar	Particle Density by Small Pyknometer	Particle Size Distribution	Hydrometer	Organic Content	Loss On Ignition	Sulphate Total	Sulphate Water Gravimetric	Carbonate	pH	Chloride Content	Chloride Content	Compaction Light	Compaction	Moisture Condition	Moisture Condition	CBR	Consolidation	Swelling Pressure	Laboratory Vane	Small Direct	Ring shear Test	Triaxial Quick	(Specify Cell	Triaxial UU Multi	Triaxial UU Multi	Consolidated	Consolidated	Undrained Triaxial	Rock Uniaxial compression	Point Load			
TP-T08	1.90	2.10	D	4	23/07/25																																					
TP-T10	1.00	1.50	B	1	18/07/25										1	1																									Envirolab 02.09.25, Ref 25/09825	
TP-T10	1.00	1.50	D	2	18/07/25		1	1																																		
TP-T10	2.00	2.50	B	3	18/07/25																																					
TP-T13	0.50	1.00	B	1	17/07/25						1	1																														
TP-T13	0.50	1.00	D	2	17/07/25		1	1																																		
TP-T13	2.00	2.50	B	3	17/07/25										1	1																									Envirolab 02.09.25, Ref 25/09825	
TP-T13	3.00	3.20	B	4	17/07/25		1				1																															
TP-T14	0.50	1.00	B	1	16/07/25																																					
TP-T14	1.50	2.00	D	2	16/07/25																																					
TP-T14A	0.50	1.00	B	1	17/07/25																																					
TP-T14A	0.50	1.00	D	2	17/07/25																																					
TP-T14A	2.00	2.50	B	3	17/07/25		1				1																															
TP-T15	0.50	1.00	B	1	17/07/25																																					
TP-T15	1.50	2.00	B	2	17/07/25		1				1																															
TP-T15	2.50	3.00	B	3	17/07/25																																					
TP-T17	0.10	0.50	B	1	16/07/25																																					
TP-T18	0.30	0.40	B	1	15/07/25		1				1																															
TP-T18	2.30	2.40	B	2	15/07/25																																					

Completed

13 4

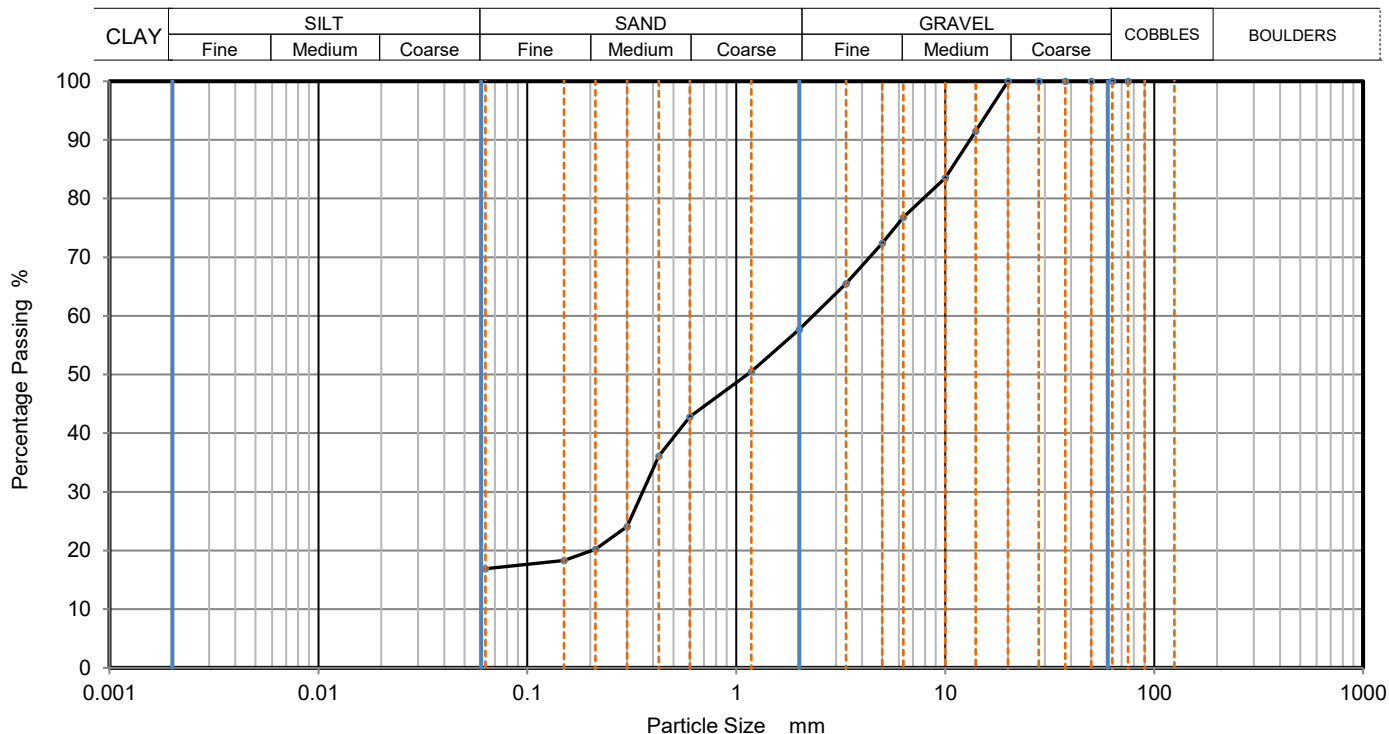
11 2

3 3



QC Form: R1

	PARTICLE SIZE DISTRIBUTION		Job Ref	2025SO101	
			Borehole/Pit No.	TP-01	
Site Name	Easky Wind Farm		Sample No.	4	
Soil Description	Light brown silty medium SAND and medium GRAVEL.		Depth, m	2.20	
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2		KeyLAB ID	IDL12025081436	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	92		
10	84		
6.3	77		
5	72		
3.35	66		
2	58		
1.18	51		
0.6	43		
0.425	36		
0.3	24		
0.212	20		
0.15	18		
0.063	17		

Dry Mass of sample, g	727
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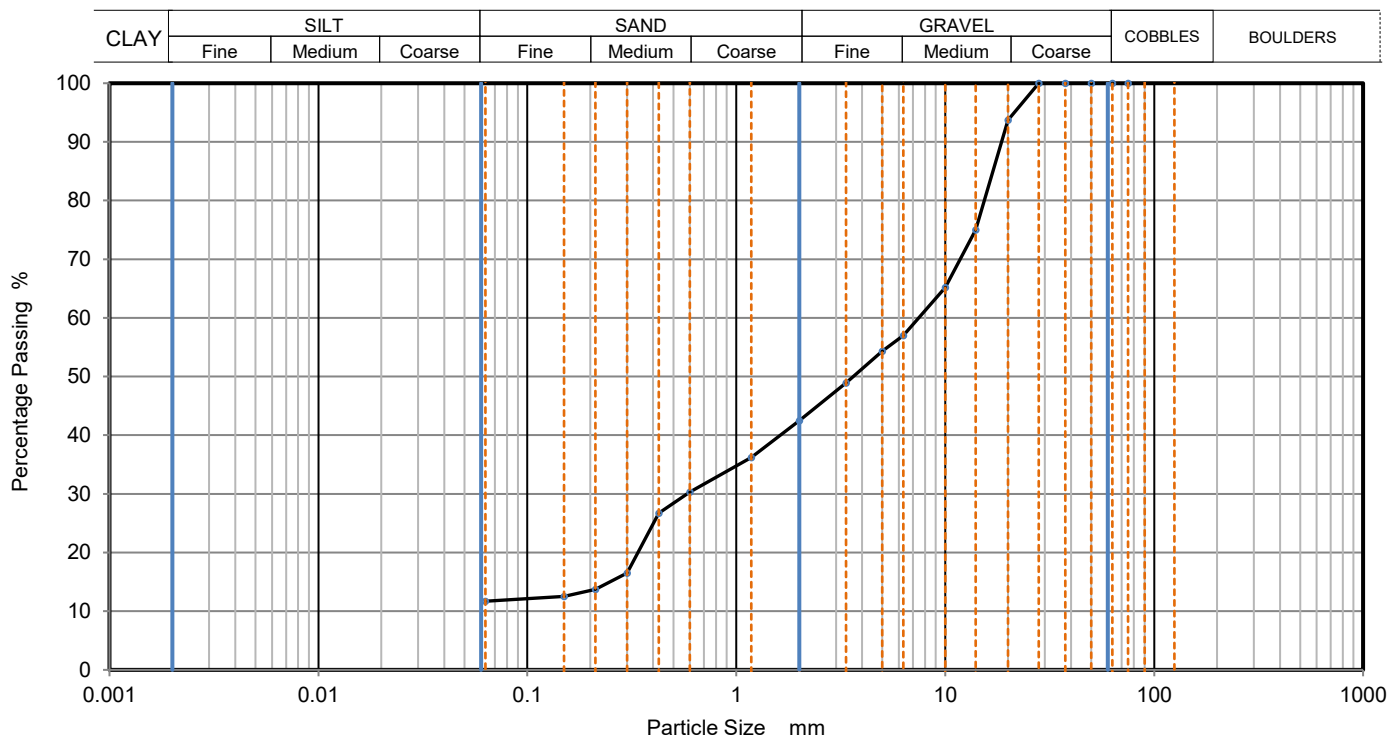
Sample Proportions	% dry mass
Very coarse	0
Gravel	42
Sand	41
Fines <0.063mm	17

Grading Analysis	
D100 mm	
D60 mm	2.33
D30 mm	0.356
D10 mm	
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	1
		Dympna Darcy B.Sc.	15/09/2025 11:46	
				QC From No:R2

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-02
Site Name	Easky Wind Farm			Sample No.	2
Soil Description	Light brown silty very sandy medium GRAVEL			Depth, m	1.40
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081438



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	94		
14	75		
10	65		
6.3	57		
5	54		
3.35	49		
2	43		
1.18	36		
0.6	30		
0.425	27		
0.3	17		
0.212	14		
0.15	13		
0.063	12		

Dry Mass of sample, g

820

Sample Proportions	% dry mass
Very coarse	0
Gravel	58
Sand	31
Fines <0.063mm	12

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

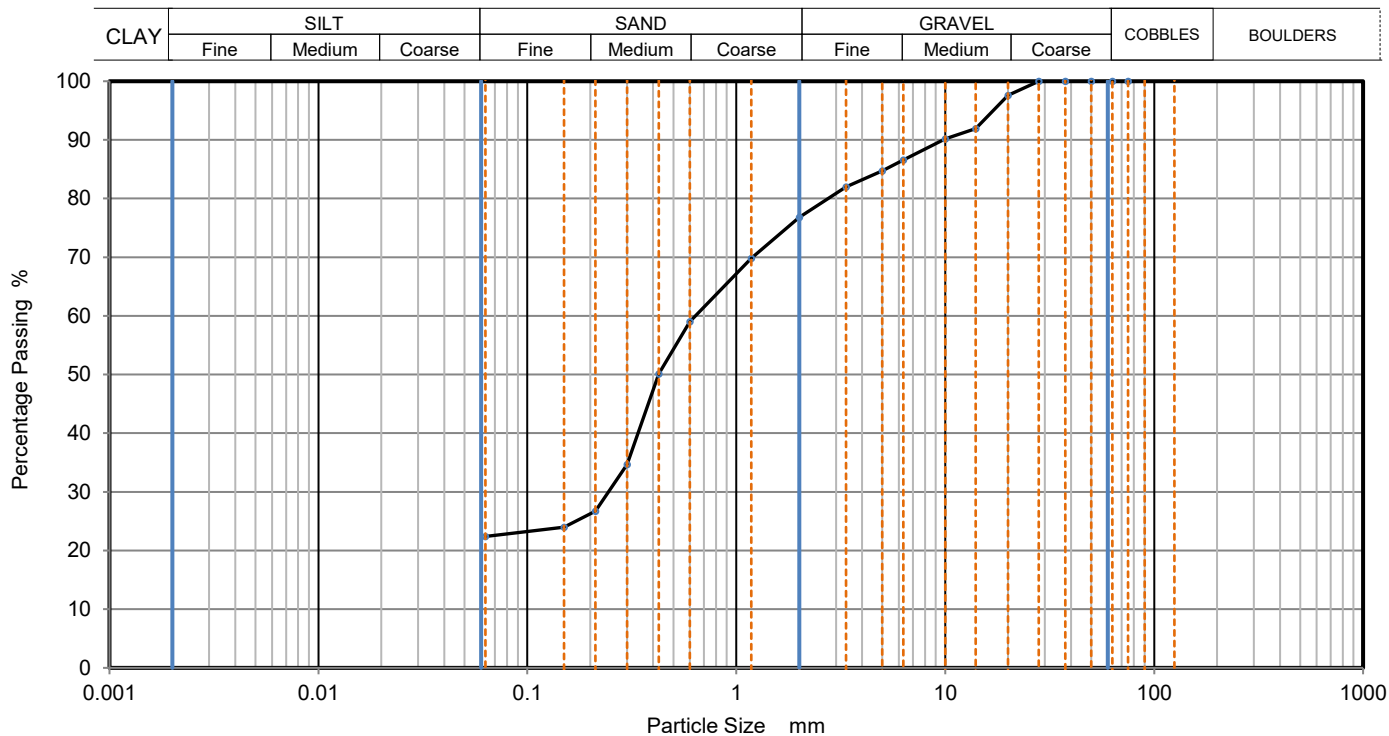
Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	1
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Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T01
Site Name	Easky Wind Farm			Sample No.	1
Soil Description	Light brown very silty very gravelly medium SAND.			Depth, m	0.50
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081448



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	92		
10	90		
6.3	87		
5	85		
3.35	82		
2	77		
1.18	70		
0.6	59		
0.425	50		
0.3	35		
0.212	27		
0.15	24		
0.063	22		

Dry Mass of sample, g

744

Sample Proportions	% dry mass
Very coarse	0
Gravel	23
Sand	54
Fines <0.063mm	22

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

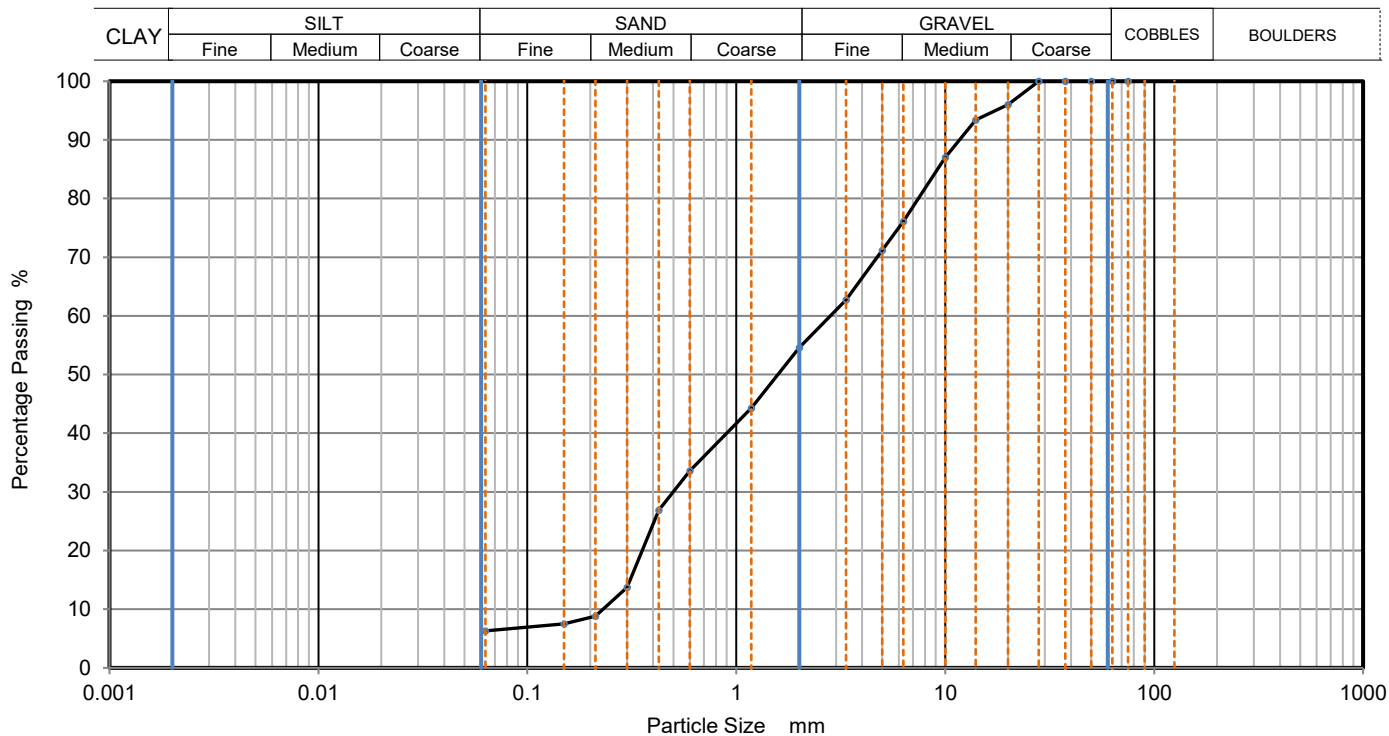
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Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T02
Site Name	Easky Wind Farm			Sample No.	3
Soil Description	Brown silty SAND and GRAVEL. Sand is medium and coarse, gravel is fine and medium.			Depth, m	1.50
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081454



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	96		
14	93		
10	87		
6.3	76		
5	71		
3.35	63		
2	55		
1.18	44		
0.6	34	Particle density (assumed) 2.65 Mg/m3	
0.425	27		
0.3	14		
0.212	9		
0.15	8		
0.063	6		

Dry Mass of sample, g

647

Sample Proportions	% dry mass
Very coarse	0
Gravel	45
Sand	48
Fines <0.063mm	6

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	12
Curvature Coefficient	0.38

Remarks

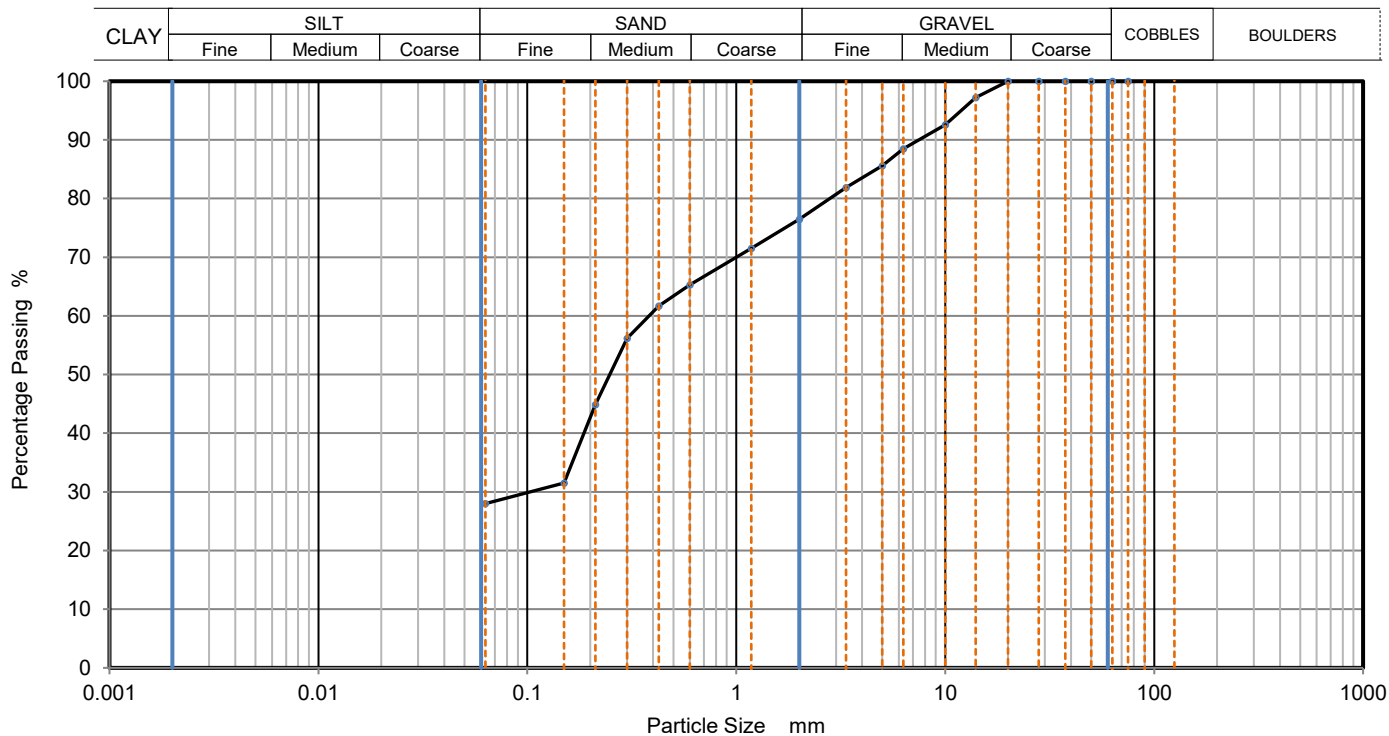
Preparation and testing in accordance with BS1377 unless noted below

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Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T04
Site Name	Easky Wind Farm			Sample No.	3
Soil Description	Brown very gravelly very silty fine and medium SAND.			Depth, m	1.40
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081461



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	97		
10	93		
6.3	89		
5	86		
3.35	82		
2	77		
1.18	72		
0.6	65		
0.425	62		
0.3	56		
0.212	45		
0.15	32		
0.063	28		

Dry Mass of sample, g

692

Sample Proportions	% dry mass
Very coarse	0
Gravel	24
Sand	49
Fines <0.063mm	28

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

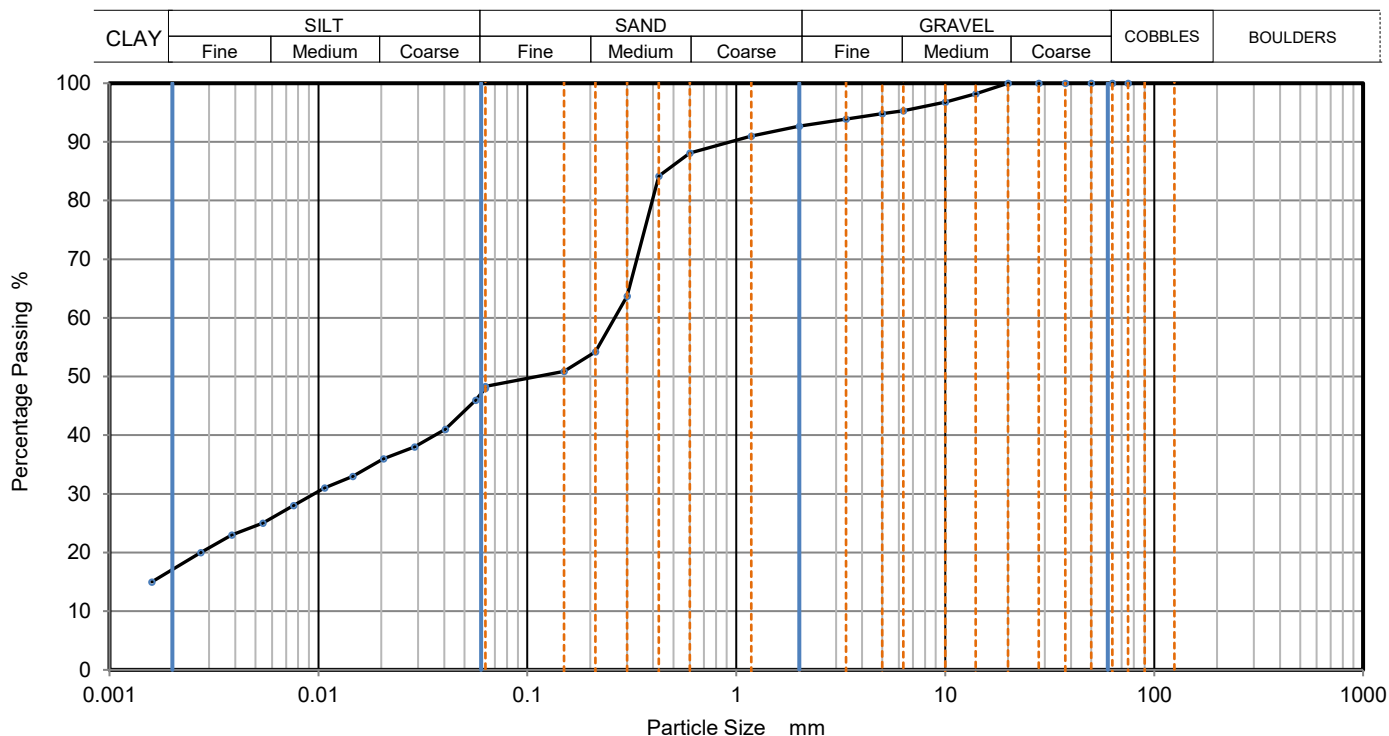
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				QC From No:R2

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Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T08
Site Name	Easky Wind Farm			Sample No.	1
Soil Description	Light brown slightly gravelly sandy SILT. Sand is medium.			Depth, m	1.00
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clauses 9.2 and 9.5			KeyLAB ID	IDL12025081464



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
		0.0630	48
		0.0567	46
75	100	0.0405	41
63	100	0.0288	38
50	100	0.0205	36
37.5	100	0.0146	33
28	100	0.0107	31
20	100	0.0076	28
14	98	0.0054	25
10	97	0.0038	23
6.3	95	0.0027	20
5	95	0.0016	15
3.35	94		
2	93		
1.18	91		
0.6	88	Particle density (assumed) 2.65 Mg/m3	
0.425	84		
0.3	64		
0.212	54		
0.15	51		
0.063	48		

Dry Mass of sample, g

694

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	44
Silt	31
Clay	17

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

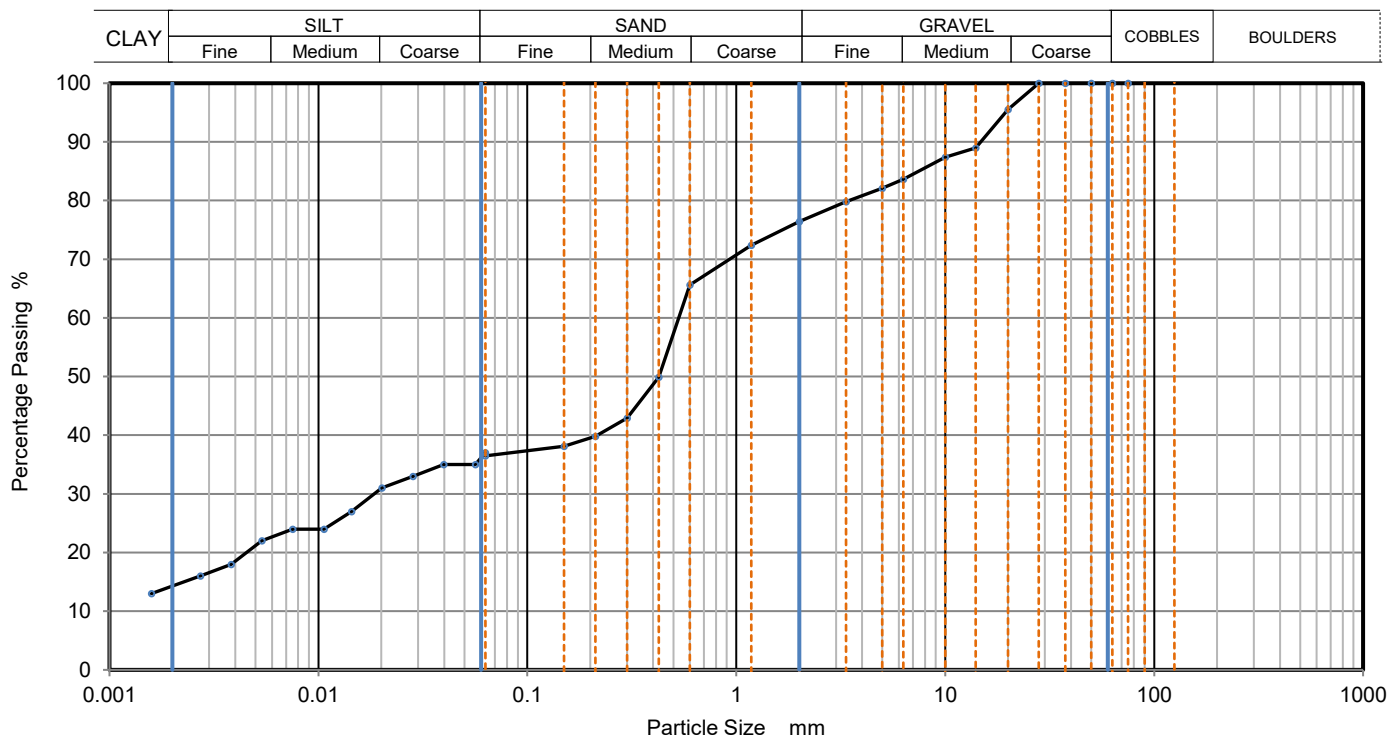
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Operator	Checked	Approved	Sheet printed	1
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Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T13
Site Name	Easky Wind Farm			Sample No.	1
Soil Description	Light brown slightly gravelly sandy SILT. Sand is medium.			Depth, m	0.50
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clauses 9.2 and 9.5			KeyLAB ID	IDL12025081471



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
		0.0630	37
		0.0563	35
75	100	0.0398	35
63	100	0.0283	33
50	100	0.0201	31
37.5	100	0.0144	27
28	100	0.0106	24
20	96	0.0075	24
14	89	0.0054	22
10	87	0.0038	18
6.3	84	0.0027	16
5	82	0.0016	13
3.35	80		
2	76		
1.18	72		
0.6	66	Particle density (assumed) 2.65 Mg/m3	
0.425	50		
0.3	43		
0.212	40		
0.15	38		
0.063	37		

Dry Mass of sample, g

794

Sample Proportions	% dry mass
Very coarse	0
Gravel	24
Sand	40
Silt	22
Clay	14

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

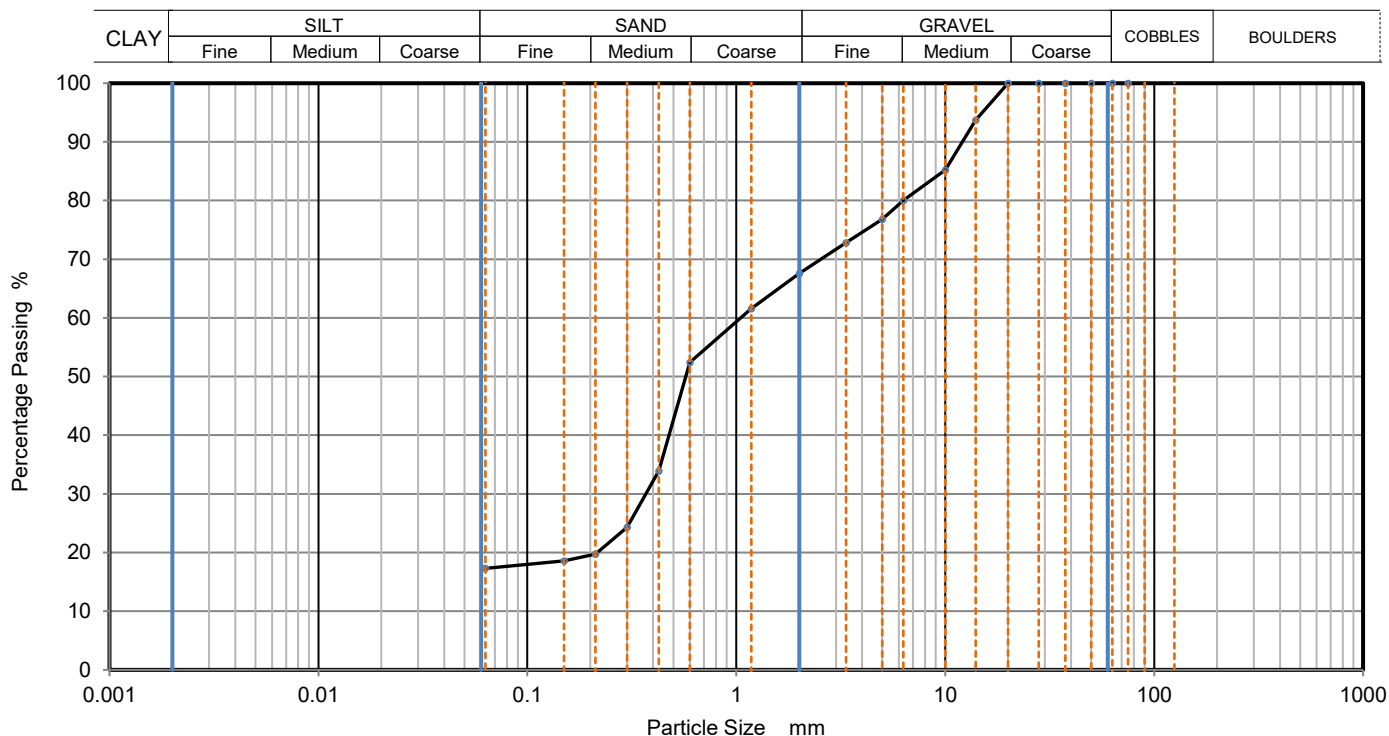
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Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T13
Site Name	Easky Wind Farm			Sample No.	4
Soil Description	Light brown silty very gravelly medium SAND. Gravel is medium.			Depth, m	3.00
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081474



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	94		
10	85		
6.3	80		
5	77		
3.35	73		
2	68		
1.18	62		
0.6	52		
0.425	34		
0.3	24		
0.212	20		
0.15	19		
0.063	17		

Dry Mass of sample, g

800

Sample Proportions	% dry mass
Very coarse	0
Gravel	32
Sand	50
Fines <0.063mm	17

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

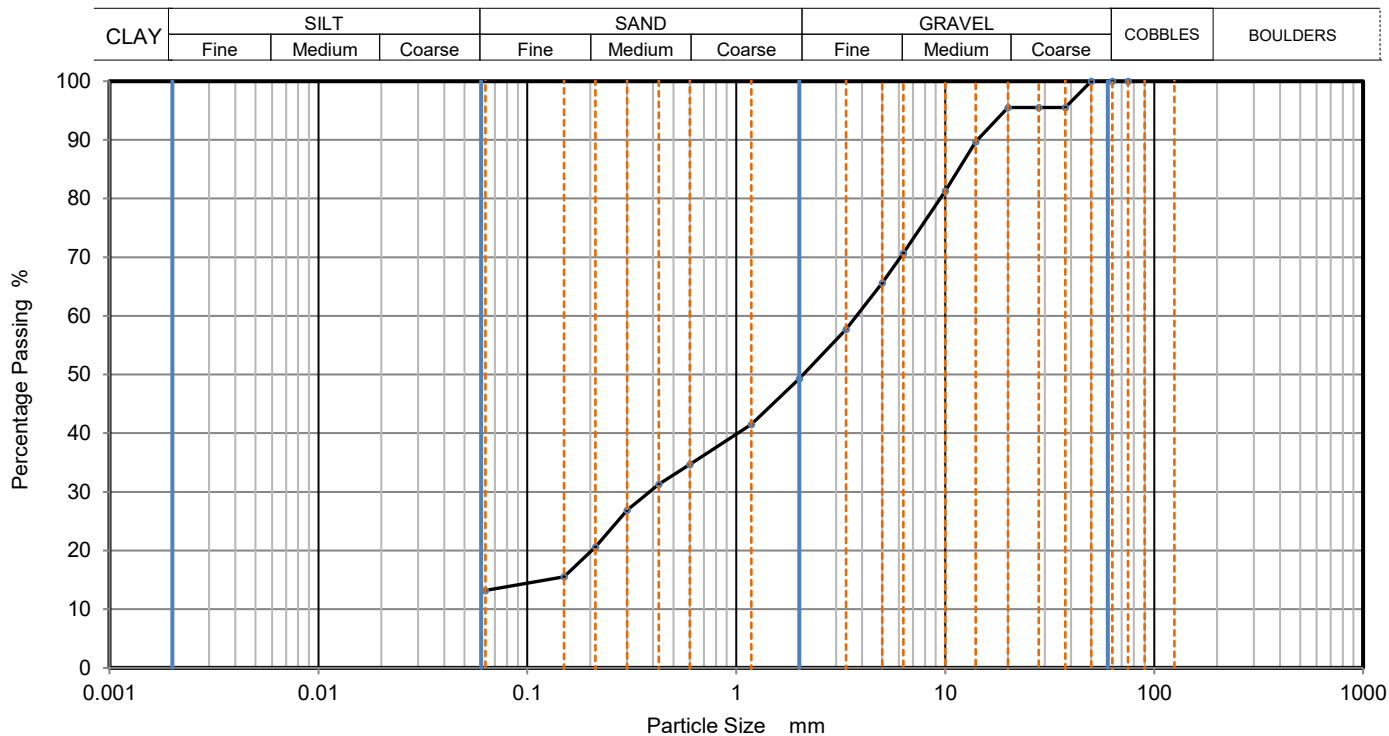
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Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T14A
Site Name	Easky Wind Farm			Sample No.	3
Soil Description	Light brown silty vey sandy fine and medium GRAVEL.			Depth, m	2.00
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081479



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	96		
28	96		
20	96		
14	90		
10	81		
6.3	71		
5	66		
3.35	58		
2	49		
1.18	42		
0.6	35		
0.425	31		
0.3	27		
0.212	21		
0.15	16		
0.063	13		

Dry Mass of sample, g

805

Sample Proportions	% dry mass
Very coarse	0
Gravel	51
Sand	36
Fines <0.063mm	13

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

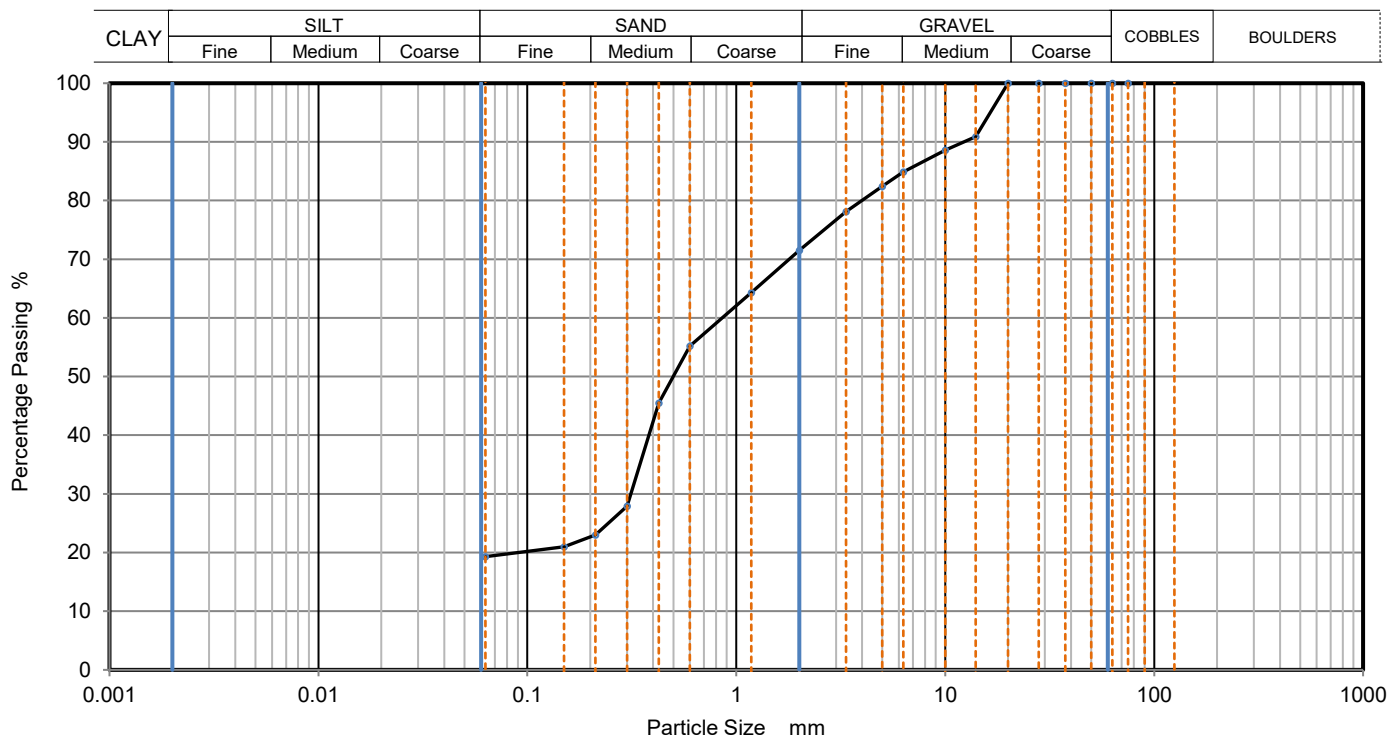
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Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T15
Site Name	Easky Wind Farm			Sample No.	2
Soil Description	Light brown silty very gravelly medium SAND.			Depth, m	1.50
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081481



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	91		
10	89		
6.3	85		
5	82		
3.35	78		
2	72		
1.18	64		
0.6	55		
0.425	46		
0.3	28		
0.212	23		
0.15	21		
0.063	19		

Dry Mass of sample, g

776

Sample Proportions	% dry mass
Very coarse	0
Gravel	29
Sand	52
Fines <0.063mm	19

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

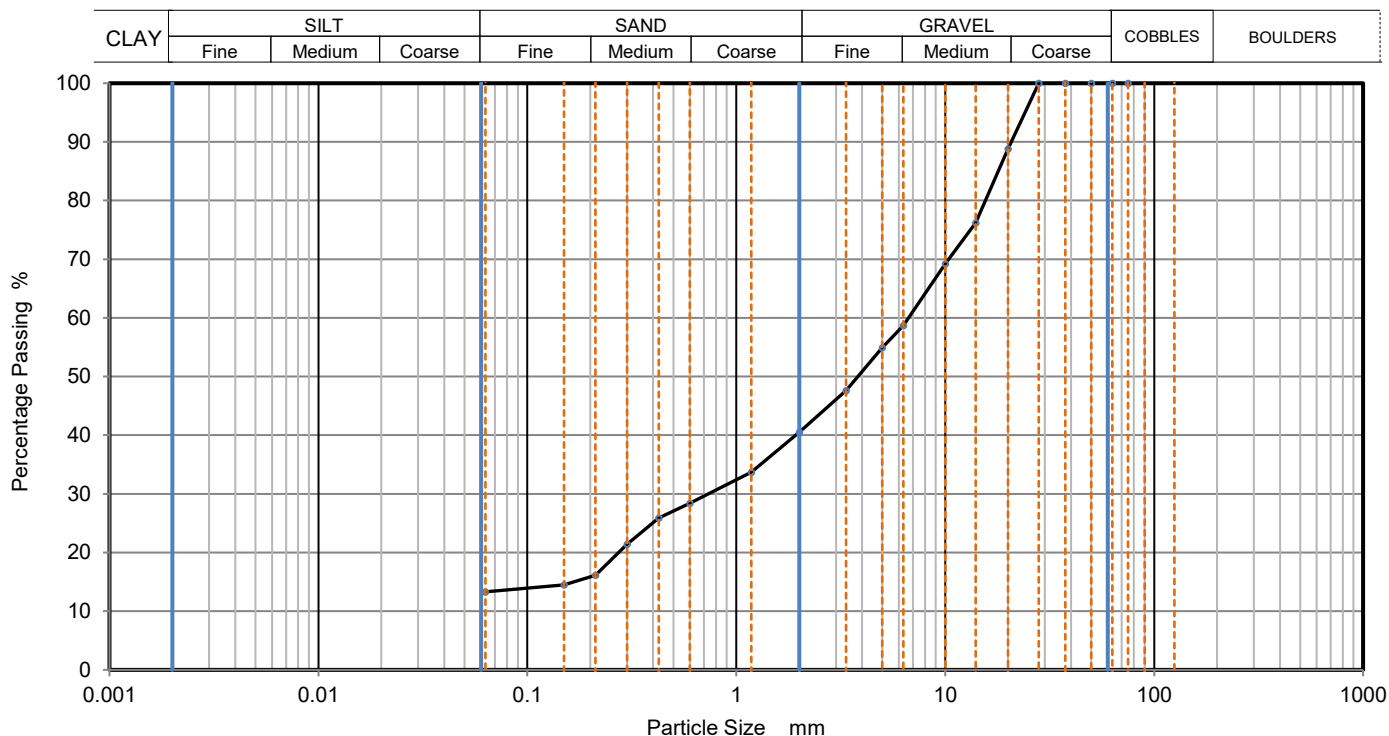
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Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

	PARTICLE SIZE DISTRIBUTION			Job Ref	2025SO101
				Borehole/Pit No.	TP-T18
Site Name	Easky Wind Farm			Sample No.	1
Soil Description	Light brown silty very sandy medium GRAVEL.			Depth, m	0.30
Specimen Reference		Specimen Depth	m	Sample Type	B
Test Method	BS1377:Part 2:1990, clause 9.2			KeyLAB ID	IDL12025081484



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	89		
14	76		
10	69		
6.3	59		
5	55		
3.35	48		
2	41		
1.18	34		
0.6	28		
0.425	26		
0.3	21		
0.212	16		
0.15	15		
0.063	13		

Dry Mass of sample, g

764

Sample Proportions	% dry mass
Very coarse	0
Gravel	60
Sand	27
Fines <0.063mm	13

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	Approved	Sheet printed	1
		Dympna Darcy B.Sc.	15/09/2025 11:46	
				QC From No:R2

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 25/09825
Issue Number: 1

Date: 15 September, 2025

Client: Irish Drilling Ltd
Old Galway Road
Loughrea
Co. Galway
Ireland
H62 VX39

Project Manager: Dympna Darcy/IDL Lab
Project Name: Easky wind Farm
Project Ref: 2025SO101
Order No: PKB21812
Date Samples Received: 04/09/25
Date Instructions Received: 04/09/25
Date Analysis Completed: 15/09/25

Approved by:



Amy Riding
Administration Assistant

Envirolab Job Number: 25/09825

Client Project Name: Easky wind Farm

Client Project Ref: 2025SO101

Lab Sample ID	25/09825/1	25/09825/2	25/09825/3					Units	Limit of Detection	Method ref
Client Sample No	1	1	3							
Client Sample ID	TP-T08	TP-T10	TP-T13							
Depth to Top	1.00	1.00	2.00							
Depth To Bottom	1.50	1.50	2.50							
Date Sampled	20-Jul-25	20-Jul-25	20-Jul-25							
Sample Type	SOIL - B	SOIL - B	SOIL - B							
Sample Matrix Code	5A	5A	4A							
% Stones >10mm _A	<0.1	6.4	24.3					% w/w	0.1	A-T-044
Sulphate (water sol 2:1) _D ^{M#}	0.01	<0.01	<0.01					g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	<200	<200	<200					mg/kg	200	A-T-028s

Report Notes

General

- This report shall not be reproduced, except in full, without written approval from Envirolab.
- The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
- The results reported herein relate only to the material supplied to the laboratory.
- The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
- Analytical results reflect the quality of the sample at the time of analysis only.
- Opinions and Interpretations expressed are outside our scope of accreditation.
- A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
- If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
- Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript “#”	Accredited to ISO 17025
Superscript “M”	Accredited to MCertS
Superscript “U”	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript “A”	Analysis performed on as-received Sample
Subscript “D”	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript “D” on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript “A”	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis

“Trace Asbestos Identified” will be reported if there is not enough present to verify the type.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs

Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.

Soil Chemical Analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as “% stones >10mm”.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any “D” subscripts.

TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.

Results “with Clean up” indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.

Where these humic substances have been identified in any IDs from “TPH CWG with clean up” please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Irish Drilling Ltd, Old Galway Road, Loughrea, Co. Galway, Ireland, H62 VX39 **Project No:** 25/09825
Project: Easky wind Farm **Date Received:** 04/09/2025 (am)
Clients Project No: 2025SO101 **Cool Box Temperatures (°C):** 16.7-16.8

Lab Sample ID	25/09825/1	25/09825/2	25/09825/3
Client Sample No	1	1	3
Client Sample ID/Depth	TP-T08 1.00-1.50m	TP-T10 1.00-1.50m	TP-T13 2.00-2.50m
Date Sampled	20/07/25	20/07/25	20/07/25
Deviation Code			
F	✓	✓	✓

Key

F Maximum holding time exceeded between sampling date and analysis for analytes listed below

HOLDING TIME EXCEEDANCES

Lab Sample ID	25/09825/1	25/09825/2	25/09825/3
Client Sample No	1	1	3
Client Sample ID/Depth	TP-T08 1.00-1.50m	TP-T10 1.00-1.50m	TP-T13 2.00-2.50m
Date Sampled	20/07/25	20/07/25	20/07/25
Sulphate (acid soluble)	✓	✓	✓
Sulphate (water sol 2:1)	✓	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	25/09825/1	25/09825/2	25/09825/3
Client Sample No	1	1	3
Client Sample ID/Depth	TP-T08 1.00-1.50m	TP-T10 1.00-1.50m	TP-T13 2.00-2.50m
Date Sampled	20/07/25	20/07/25	20/07/25
A-T-026s	12/09/2025	12/09/2025	12/09/2025
A-T-028s	15/09/2025	15/09/2025	15/09/2025
A-T-044	15/09/2025	15/09/2025	15/09/2025

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Appendix 3

Trial Pit Photographs

Irish Drilling Ltd: Trial Pit Photos:



Figure 1 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP01 (1).jpg



Figure 3 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP01 (4).jpg



Figure 2 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP01 (2).jpg



Figure 4 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP01 (5).jpg



Figure 5 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP02 (1).jpg



Figure 7 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP02 (3).jpg



Figure 6 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP02 (2).jpg



Figure 8 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP02 (4).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 9 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP03(1).jpg



Figure 11 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP03(3).jpg



Figure 10 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP03(2).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 12 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP04(1).jpg



Figure 14 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP04(3).jpg



Figure 13 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP04(2).jpg



Figure 15 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T01(1).jpg



Figure 17 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T01(3).jpg



Figure 16 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T01(2).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 18 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T02(1).jpg



Figure 20 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T02(3).jpg



Figure 19 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T02(2).jpg



Figure 21 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T02(4).jpg



Figure 22 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T03(1).jpg



Figure 24 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T03(3).jpg



Figure 23 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T03(2).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 25 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T04(5).jpg



Figure 27 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T04(7).jpg



Figure 26 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T04(6).jpg



Figure 28 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T04(8).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 29 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T07(1).jpg



Figure 31 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T07(3).jpg



Figure 30 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T07(2).jpg



Figure 32 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T07(5).jpg



Figure 33 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T08(1).jpg



Figure 35 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T08(3).jpg



Figure 34 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T08(2).jpg



Figure 36 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T08(4).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 37 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T10(1).jpg



Figure 39 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T10(3).jpg



Figure 38 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T10(2).jpg



Figure 40 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T10(4).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 41 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T11(1).jpg



Figure 43 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T11(3).jpg



Figure 42 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T11(2).jpg



Figure 44 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T11(4).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 45 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T13(1).jpg



Figure 47 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T13(3).jpg



Figure 46 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T13(2).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 48 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T14(1).jpg



Figure 50 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T14(3).jpg



Figure 49 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T14(2).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 51 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T14A(1).jpg



Figure 53 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T14A(3).jpg



Figure 52 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T14A(2).jpg



Figure 54 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T15(1).jpg



Figure 56 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T15(3).jpg



Figure 55 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T15(2).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 57 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T17(1).jpg



Figure 59 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T17(3).jpg



Figure 58 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TP T17(2).jpg

Irish Drilling Ltd: Trial Pit Photos:



Figure 60 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TPT18 (1).jpg



Figure 62 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TPT18 (4).jpg



Figure 61 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TPT18 (3).jpg

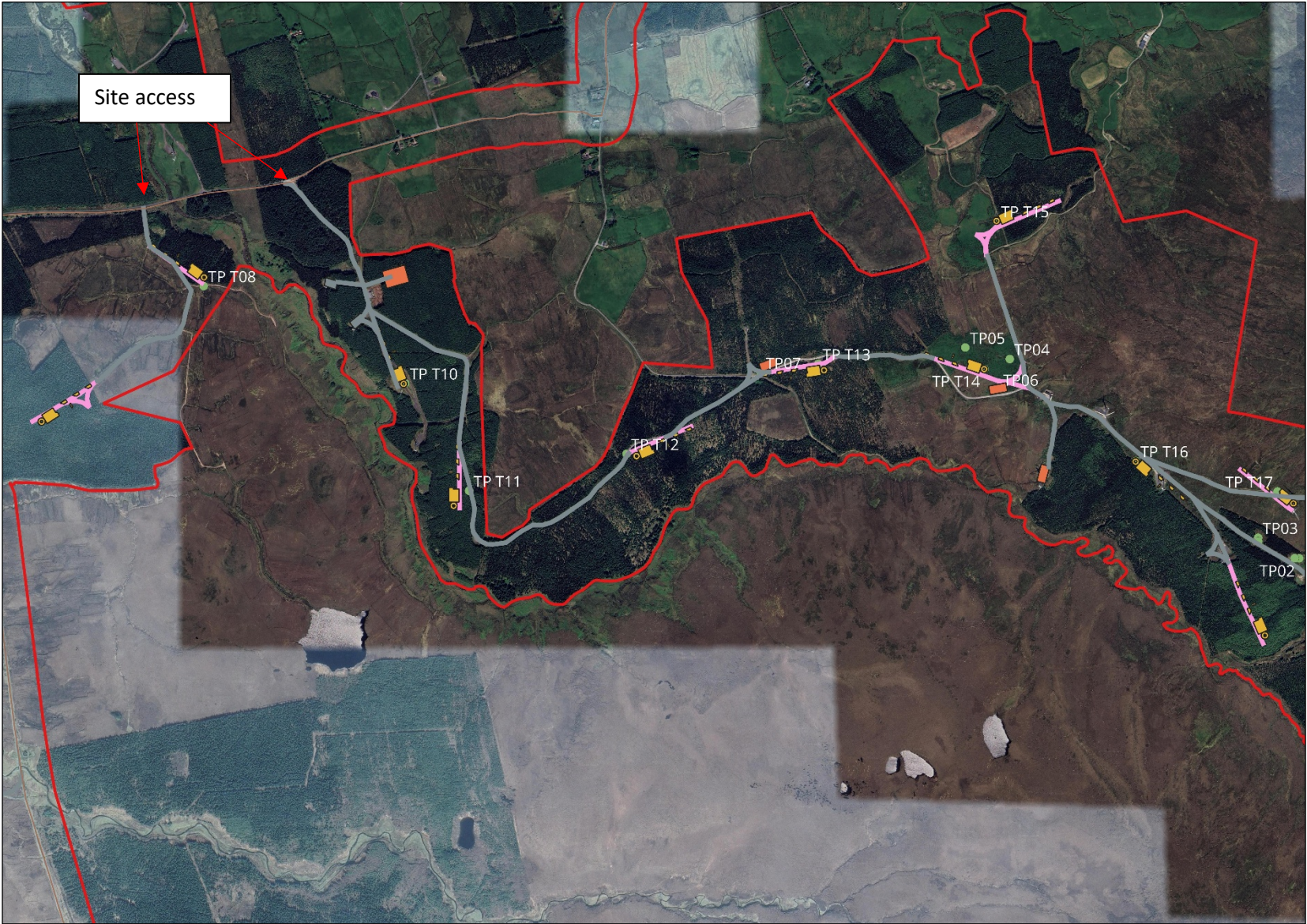


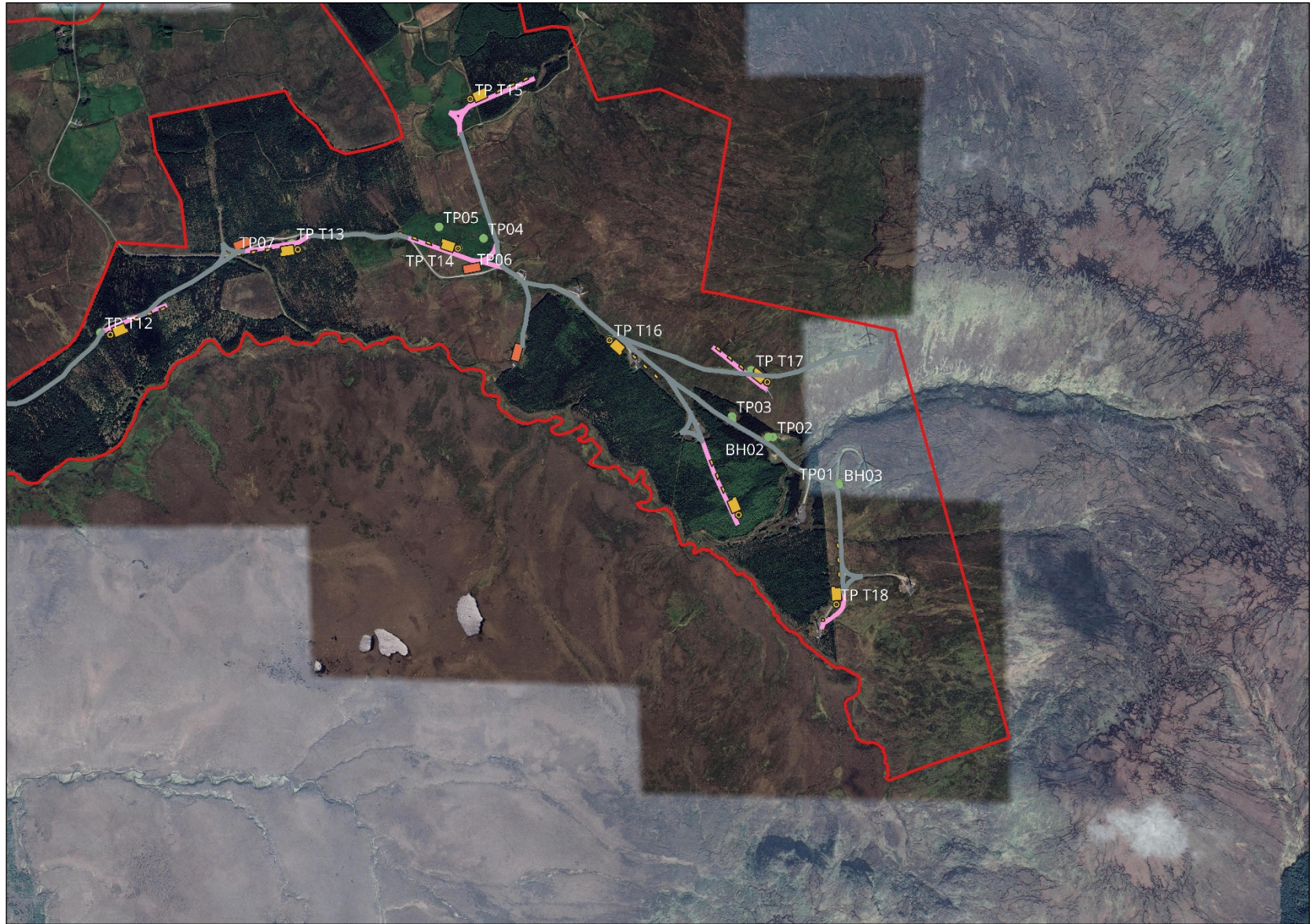
Figure 63 H:\2025\25SO101_EaskyWF\Crumhach (Easky) Windfarm\TPT18 (5).jpg

Appendix 4

Site Plans









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