Prepared for;

Jennings O'Donovan

Inchamore Windfarm (IWF)

Site Investigation Report & Peat & Subsoil Stability Risk Assessment

JENNINGS O'DONOVAN & PARTNERS LIMITED
CONSULTING ENGINEERS

603679 IWF EIAR App. 8.1 SI & PSSRA (02)

ISO 9001 ISO 14001 OHSAS 18001 DNV REGISTERED
INVESTORS IN PEOPLE

RSK

MARCH 2023

RSK GENERAL NOTES

Project No.: 603679 (02)

Title: Site Investigation & Peat & Subsoil Stability Risk Assessment Report

Client: Jennings O'Donovan

Date: 03/04/2023

Office: RSK Dublin

Status: (03) FINAL

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Date:	03/04/2023	Date:	26/04/2023

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1. Introduction

1.1 Background

RSK Ireland was commissioned by Jennings O'Donovan & Partners (JOD, the Client) on behalf of Inchamore Wind DAC (the Developer/s) to assess the geological site characteristics in relation to the planning application for the Inchamore Wind Farm (IWF, the Development) in Co. Cork.

1.2 Purpose

Site Investigation for the purposes of assessing ground conditions at EIA design phase of a proposed wind farm development, Inchamore Wind Farm, Co. Cork. Assessing ground conditions in terms of peat and slope stability risk, subsoil and geological characterisation and classification.

1.3 Scope of Works – Tender

The scope of works was initially specified by the Developer at tender phase. The scope of works for ground investigations at tender included the following works;

- Peat probing (50 m grid), 50 ha
- Trial pits, 35 no.
- Number of groundwater monitoring wells, 4 no.
- SI report with detailed findings, records and interpretation

Provisional works included;

- Gouge auger samples
- Boreholes up to 15 m, 5 no.
- Ground penetrating radar surveys (5 days)

In consultation with the Client and Developer the scope of works was adapted to the site based on observations made by desk study and initial site walk overs and assessments. The actual completed scope of works is detailed in **Section 2**.

This work has been carried out in unison with the EIAR for the Project. Therefore, this report will be appended to **EIAR Chapter 8 - Soils & Geology** as part of the planning application for the Project. The EIAR tender scope includes for a stand-alone Peat Stability Report as well as stand alone Site Investigation report, however the two will be merged in this Site Investigation report. This is done with a view streamlining the site geological assessment.

Further to the above, the geological or environmental setting of the site will be described in detail in **EIAR Chapter 8 – Soil & Geology** with appended maps and graphics for reference. This report will refer and summarise the EIAR chapter/s to avoid duplication of information or graphics. This report will also reference **EIAR Chapter 9 – Hydrology & Hydrogeology** in relation to groundwater.

1.4 Statement of Authority

RSK (Ireland) Ltd. (RSK), part of RSK Group, is a consultancy providing environmental services in the hydrological, hydrogeological and other environmental disciplines. The company and group provide consultancy to clients in both the public & private sectors. More information can be found at www.rskgroup.com. The principal members of the RSK EIA team involved in this assessment include the following persons;

- Sven Klinkenbergh – B.Sc. (Environmental Science), P.G.Dip. (Environmental Protection) – Associate, Project Manager and EIA Lead Author with c. 10 years industry experience in the preparation of hydrological, hydrogeological and geological reports..
- Project Scientist: Lissa Colleen McClung - B.Sc. (Hons.) Environmental Studies, M.Sc. (Hons.) Environmental Science. Current Role: Graduate Project Scientist
- Project Scientist: Mairéad Duffy – B.Sc. (Environmental Science), M.Sc. (Climate Change). Current Role: Graduate Project Scientist

2. Site Investigation Works & Methods

2.1 Scope of Works – Completed

The completed scope of works included;

- Peat depth probing, approx. 150 no. sampling locations.
- Trial pits, 16 no.
- Sub-soil sampling and Particle Size Distribution analysis, 4 no.
- Drilling – Rotary Core, 1 no.
- Drill core sample analysis. Point Load (PL) and Unconfined Compression Test (UCS).

2.2 Peat & Slope Stability Risk Assessment Methodology

2.2.1 Key assessment principals

The site assessment is carried out following key principals in line with relevant guidance, namely;

- BS 5930:2015+A1:2020 Code of Practice for Site Investigations.
- Scottish Government (2017) Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments

Some key insights to application and interpretation are provided from numerous documents, in particular;

- N. Boylan, P. Jennings & M. Long (2008) Peat slope failure in Ireland. Quarterly Journal of Engineering Geology and Hydrogeolog.

2.2.1.1 BS 5930 – Code of Practice for Site Investigations

This document explains the important steps to be taken in preparing for, scoping, and executing site investigations of various nature. The standard covers the following aspects:

- Planning: This section provides guidance on the planning of site investigations, including the purpose of the investigation, the scope of work, and the selection of appropriate investigation techniques.
- Desk Study: This section provides guidance on the collection and review of existing information, such as geological maps, site records, and historical data, that can aid in the planning and execution of site investigations.
- Site reconnaissance: This section provides guidance on the preliminary site visit to collect data on site characteristics and conditions.
- Investigation methods: This section provides guidance on the selection of appropriate investigation methods, such as drilling, sampling, and testing techniques, based on the site characteristics and the purpose of the investigation.
- Field testing: This section provides guidance on the execution of field testing, such as in-situ testing, geophysical surveys, and environmental testing.
- Laboratory testing: This section provides guidance on the selection and execution of laboratory testing, such as soil and rock testing, and the interpretation of laboratory results.
- Reporting: This section provides guidance on the reporting of site investigations, including the presentation of data, the interpretation of results, and the conclusions and recommendations.

Scoping site investigations and sampling regime in terms of sampling locations and frequency is an important and dynamic process. While BS 5930 details sampling frequency in terms of soil and rock geotechnical and environmental testing, standard provides guidance on the spacing and frequency of sampling points, which may vary depending on the site conditions, the purpose of the investigation, and the type of sampling method being used. It is important to scope and align appropriate methodologies and sampling regime with specific objectives and within specific environments, including Peat & Slope Stability Risk Assessments in peatland areas.

2.2.1.2 Scottish Government (2017) Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments

The Scottish Government's Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments is a document that provides guidance on the assessment of landslide

hazard and risk in peatland areas, particularly in relation to proposed electricity generation developments. The document is published and written in context of Scottish peatlands, however in the absence of relevant guidance, it is widely accepted as relevant guidance in Ireland.

The guide emphasizes the need for a comprehensive assessment of landslide hazard and risk in peatland areas, which is particularly important due to the unique characteristics of these environments. Peatlands are often found in areas of high rainfall, and the accumulation of peat can result in unstable ground conditions, which can increase the risk of landslides.

The guide provides a step-by-step approach to landslide hazard and risk assessment, including the identification of potential landslide triggers, the characterization of the peatland environment, the assessment of landslide susceptibility, and the estimation of landslide hazard and risk. The guide also provides guidance on the selection of appropriate methods for landslide hazard and risk assessment, such as field mapping, remote sensing, and numerical modelling. The guide emphasizes the importance of stakeholder engagement and communication in the landslide hazard and risk assessment process, particularly in relation to proposed electricity generation developments, which can potentially have significant impacts on the surrounding environmental receptors and communities. The guide covers the following aspects which should be included in the site risk assessment;

- Sampling Regime: The guide recommends a sampling regime that includes both surface and subsurface surveys, using techniques such as; depth probing, gouge coring, trialpitting, drilling, and geophysical surveys. The aim is to obtain a comprehensive understanding of the geology and hydrogeology of the site, as well as the depth and condition of the peat layer.
- Assessment of Desk Top Data: The guide recommends an assessment of desktop data to identify potential sources of instability, such as steep slopes, drainage features, and areas of peat degradation. This assessment should be based on available data sources such as geological maps, aerial photographs, and LiDAR data.
- Degree of Geomorphological Assessment: The guide recommends a high degree of geomorphological assessment, using methods such as aerial photography interpretation and field mapping to identify potential instability features such as landslides and erosion channels. Many sources of data can input to the interpretation of stability risk at any particular location, and field reconnasance is also a valuable tool in this repsect.
- Interpretation of Data: The guide recommends a detailed interpretation of all data collected, including the results of field surveys and laboratory testing. This should involve the identification of key parameters such as peat depth, soil properties, and groundwater levels or saturation, as well as the integration of all available data to develop a comprehensive understanding of the potential for instability. This can result in screening out peat stability risk, for example; in areas of extensive shallow bedrock or bedrock outcrops, or areas with very minor inclines. Conversly, high risk areas can potentially be identified by desk top assessment alone, for example; steep slopes in excess 15 degrees, or areas with historical stability issues or historic landslides.
- The development of numerical models for peat stability risk assessments has been driven by advances in computer technology (e.g. QGIS) and modeling techniques, as well as an increased awareness of the risks associated with peat instability. The use of numerical modeling in peat stability risk assessments typically involves the following steps:
    - Development of a conceptual model: This involves the development of a conceptual model of the site based on the results of field investigations and laboratory testing. The conceptual model should include information on the geometry and properties of the peat layer, as well hydrogeological characteristics such as pore water pressure or bul unit weight (saturation).
    - Selection of appropriate modeling techniques: There are a variety of modeling techniques that can be used to simulate peat stability, including finite element and finite difference methods. The selection of an appropriate modeling technique will depend on the specific characteristics of the site and the goals of the assessment.
    - Calibration and validation of the model: The model is calibrated and validated using data collected during field investigations and laboratory testing. This involves adjusting model parameters to improve the match between simulated and observed data.

Overall, the guide emphasizes the importance of a comprehensive and integrated approach to peat landslide hazard and risk assessments, which includes a thorough sampling regime, an assessment of desktop data, a high degree of geomorphological assessment, and a detailed interpretation of all data collected. By following these guidelines potential hazards and risks associated with peat instability can be identified and managed effectively.

2.2.2 Desktop baseline characterisation & approach

The site and proposed development are assessed using QGIS mapping software with relevant environmental data layers published by relevant bodies including; EPA, and GSI.

Open source Global Digital Elevation Model (DGEM) data is used to determine the general nature of the topography at the site, including interrogating elevation data to determine slope inclines across the site.

Areas of the site undergo preliminary risk assessment and development constraints are identified and mapped. This will include slope inclines >8 degrees, 50m and 150m surface water or other environmental receptor buffers, etc. This data is used to inform the initial design phase of a project and to scope the site survey and sampling regime.

On completion of the initial phases of site surveys, georeferenced data is compiled and mapped in QGIS along with the initial desktop data. The site undergoes further preliminary risk assessment, preliminary modelling and constraints are updated and the process repeats i.e. phase 2.

Other environmental data, including peatland ecological data is incorporated where relevant.

2.2.3 Peat depth probing & topography assessments

Peat depth probing was undertaken at the site including at each proposed potential turbine location, at proposed locations for other infrastructure, and elsewhere on site where desktop assessment could not screen out stability risk.

Depth probing was conducted using a fibreglass depth probe and at each survey point the depth of peat, local incline (incline within a c. 5-10 m radius of the survey point) and grid reference (Irish Grid) were recorded. Notes on observations were also recorded including time of taking photographs, presence of drains etc.

A number of inferred peat depth probe points with a value of 0.5m, distributed in 2 no. transects at proposed turbine location T2. The inferred transects are intended to assess variability of peat stability corresponding with variability of incline, and to risk assess stability in close proximity to sensitive receptors.

2.2.4 Peat gouge coring & qualitative assessments

Gouge coring of peat was carried out to a limited extent (peat depth generally shallow). Peat quality assessment were made at existing cuttings and during trial pitting.

2.2.5 Piezometer installation & groundwater assessments

Not applicable. Peat depth at the site observed to be shallow generally at the site.

2.2.6 Topography & substrate topology

Using available topographical data provided for the site and peat thickness / depth data obtained during MEL surveys, the topology (characteristics of a surface) of the substrate underlying the peat on site was assessed and cross sections generated to evaluate variance from the surface topology.

2.2.7 Peat stability numerical assessment

This stability assessment has been undertaken using a relatively simple infinite slope stability approach (Boylan, N, and Long, M, 2012) (derived from Bromhead's formula (Scottish Gov., 2017)), as follows;

$$FoS = \frac{cu}{yz \sin \alpha \cos \alpha}$$

For the purpose of this assessment, the above formula will be referred to as the *FoS Formula*.

Qualifying peat stability at all peat survey points and trial pit locations was done using the following parameters;

Table 1: Formula Parameters & Symbols

Symbol	Description	Unit
FoS	Factor of Safety	FoS
c_u	Effective cohesion or Undrained Shear Strength	kPa
y	Bulk Unit Weight of Peat	kN/m3
z	Depth to failure plain	m
α	Slope Angle	Degrees

The Factor of Safety (FoS) result will range from 0 to infinity, however the following ranges are prescribed ratings as follows;

Table 2: Factor of Safety (FoS) Classifications (Scottish Gov., 2017)

Description	FoS Value Range	Classification
Stable	>1.3	Acceptable
Marginally Stable	1.0 > < 1.3	Acceptable
Unstable	<1.0	Unacceptable

As per the guidance listed in Section 2 of this report, FoS values of 1.0 or greater are considered acceptable in terms of peat stability (Scottish Gov., 2017).

The assessment has been completed on the basis of 2 no. scenarios, which are as follows;

1. Scenario A – Peat stability in terms of the receiving environment as is, that is using the depth of peat observed and recorded during site surveys.
2. Scenario B – Peat stability in terms of the in-situ peat with 1m fill (presumed peat) placed on top, that is using the depth of peat observed and recorded during site surveys plus 1 metre fill (depth + 1.0m). This is the assessment worst case scenario, and this will be used to assess stability at proposed infrastructure locations.

Undrained shear strength (effective cohesion) (c_u) has been derived by means of assessing moisture content results, which is; there is a correlation between peat moisture content and shear strength (effective cohesion). Shear vane testing has been carried out on the site however, shear vane test, or in situ barrel shear tests are not considered representative of shear strength characteristics of the peat being assessed in terms of stability assessment given numerous flaws with the test itself, namely; the shear vane test evaluates the shear strength where by the force is exerted in a vertical and cylindrical plane, which is not indicative of forces at play with respect slope stability or mass movement; and fibres and roots within the peat will effect the test itself, potentially exaggerating, or giving misleading data. The following graph presents conceptual shear strength values for peat (Boylan N, Jennings P & Long M., 2008).

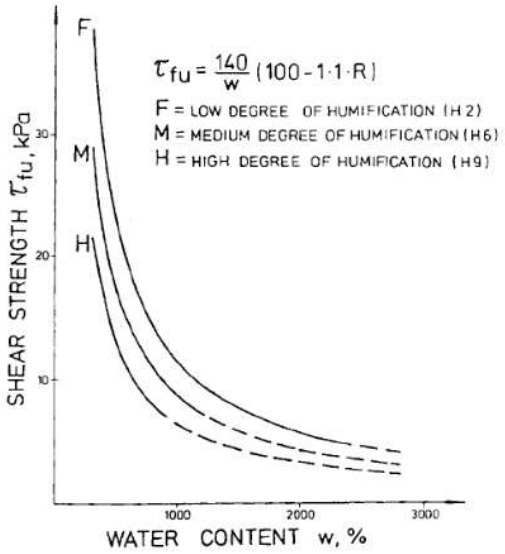

Figure 1: Correlation Between Moisture Content and Shear Strength of Peat (N. Boylan, P. Jennings & M. Long, 2008)

The following table presents the typical minimum, average and maximum moisture content which been used to determine indicative shear strength values for the Site.

Table 3: Peat Moisture Content Range & Indicative Shear Strength

Category	Moisture Content (%)	Indicative Shear Strength (kPa)
Minimum	200	>20
Average	750	10-20
Maximum	1500	<10

For the purpose of assessing peat stability for the Site a conservative undrained shear strength (effective cohesion) value will be used in numerical assessments, i.e., 3.5 kPa.

In situ bulk density (kg/m^3), or bulk unit weight (kN/m^3) of peat (y) is typically within the range of 900-1100 kg/m^3 (Munro R, 2004), or 8.8-10.8kN/m^3. For the purpose of assessing peat stability for the Site a conservative bulk unit weight value will be used in numerical assessments i.e., 11kN/m^3.

The depth to failure plane (z) is presumed to be thickness or depth of peat at any given sampling point being assessed, however it should be noted that the failure plane can potentially be within peat (peat on peat movement), or the substrate i.e., weathered rock or underlying soils.

Slope angle (α) is presumed to be topographical incline measured on site / evaluated using high resolution elevation data at any given sampling point being assessed, however it should be noted that the slope angle (α) relates to the failure plane angle, which is presumed to be the peat and substrate interface, and which is presumed to be parallel to the surface when using FoS Formula (Infinite Slope Formula). In reality the underlying substrate is unlikely to be parallel to the surface topology.

It should be noted that FoS Formula does not account for forces related to the toe and head of an area or mass of soil with the potential for mass movement, which is; in reality the Infinite Slope formula will likely exaggerate stability conditions negatively.

The following table lists parameter values, including inferred conservative parameter values used in numerical assessments.

Table 4: Formula Parameters, Symbols & Inferred Conservative Values

Symbol	Description	Value	Unit
c_u	Effective cohesion	3.5	kPa
y	Bulk Unit Weight of Peat	11	kN/m3
z	Depth to failure plain	Depth of Peat	m
α	Slope Angle	Surface Topography	Degrees

2.2.8 Risk Matrices & Ranking

In assessing the risk in relation to peat stability on site it is important to rate the risk in terms of the hazard, the likelihood and the consequences if any such issue should arise. Therefore, the slope stability risk assessment considers the following parameters, which are assessed by means of a series of risk matrices (Scottish Gov., 2017).

Table 5: Parameters Included in Risk Matrices and Assessed

Category	Description
Landslide History	Considers the likelihood of landslide events occurring based on the history of the site, including the current site use.
Factor of Safety	As described above, includes the following; • Peat depth • Peat quality / condition • Moisture content • Incline (surface topography) • Shear strength • Bulk unit weight of peat
Substrate Topology	Identifying and qualifying variance in substrate topology and qualifying variance from theory underlining the stability formula used i.e., Infinite Slope (Parallel and no foot and head forces)
Significance of Receptor	Qualifying potential receptors in terms of significance.
Distance to Receptor	Qualifying localised proposed development areas in terms of distance to nearest receptor.

Considering the above parameters, the stability assessment follows the following steps;

1. FoS_{RAW} - Assess the site in terms of soil stability using the FoS Formula and calculate a Factor of Safety (FoS) using the *raw* data. This step is considered as preparation of the data obtained for the site i.e., translating the data to a value related to stability, and is not considered the final output of the stability assessment.
2. $FoS_{ADJUSTED}$ - Assess the FoS_{RAW} values in terms of suitability of the application of FoS Formula by considering the history of landslides in relation to the proposed site, and the topology of the substrate compared to the surface topology of the site. This is done by means of a risk matrix which qualifies the point, and also applies a coefficient for the next risk assessment step.
3. Risk Ranking RR_{SF} - The $FoS_{ADJUSTED}$ data is assessed in terms of significance of associated receptor. This is done by means of a risk matrix which qualifies the point, and also applies a coefficient for the next risk assessment step.
4. Risk Ranking RR_D – The RR_{SF} data is assessed in terms of distance to associated receptor. This is done by means of a risk matrix which qualifies the point.

Results and conclusions made by means of the above risk assessment are viewed as two tiered, that is;

1. The likelihood of a stability issue or landslide while considering the significance of the receptor (RR_{SF}).
2. The consequence of a stability issue or landslide while considering the distance to the receptor (RR_{D}).

For example, (1) The risk of a stability issues or landslide occurring at location X and impacting on receptor Y is negligible. (2) Considering the short distance from location X to receptor Y, in the unlikely event that an issue did arise the risk of adverse impacts effecting receptor Y is moderate.

Risk Matrices are presented in **Appendix I**.

2.2.9 Interpretation of Results.

Results of the numerical stability risk assessment are modelled / mapped and interrogated in the context of site topography, site conditions, the Project and receptor sensitivity and susceptibility. Interpretation of results in the context of the development, activity and any potential consequences is an important step of the slope stability risk assessment. It is important to consider groups of data sets and site-specific dynamics at a particular location (for example, at a proposed turbine location) and to qualitatively risk assess stability in the context of all observed site characteristics, including topography, substrate topology, geology, hydrogeology, and hydrology, etc. For example; data might indicate a single point of unacceptable FoS / stability, however this needs to be considered in context of neighbouring data and actual site conditions, such as the presence of deep peat within a localised basin confined by shallow bedrock at the surface at neighbouring points, that is; deep, "unstable" peat (by numerical model) observed to be confined by shallow bedrock does not equate to an elevated risk of a catastrophic landslide event occurring, but does equate to potential localised stability issues arising if excavating at that particular location with deep peat.

In turn, any potential stability hazard must be considered in risk assessments in terms of potential consequences to receptors, and not simply likelihood of a stability issues arising. For example, in an area with low risk in terms of stability or Factor of Safety (FoS), but immediately and directly upgradient of a sensitive receptor such as a surface water body, in the unlikely event (low risk = acceptable FoS) that a significant stability issue should arise, due to the proximity to the receiving receptor the consequences of such an event have the potential to be significant.

The following table presents the interpretation of stability risk assessment data in the context of stability, or factor of safety (FoS) (Adjusted, Scenario B) at each significant development infrastructure unit.

2.3 Subsoil & Slope Stability Risk Assessment Methodology

2.3.1 Subsoil stability numerical assessment

This stability assessment has been undertaken in a similar manner to the peat stability assessment. However, due to the limited data available (compared to number of peat depth probing locations) qualifying stability in subsoils at the Site will infer data obtained at nearest neighbour trial pit locations.

Subsoils observed on site generally are classified as follows;

- Clayey, silty, sandy, GRAVEL (or TILL) with coobles and boulders.

The undrained shear strength observed in till subsoils at the Site ranged from 15 to 180kPa (**Appendix B**). This data is not considered highly reliable due to numerous site-specific factors including particle size distribution of subsoils, particularly with high gravel / cobble content in this instance.

The undrained shear strength for inorganic silty sandy soils is typically in the range of 50 to 75kPa but is highly variable depending on the particular particle sizes and their character comprising the soil. It should be noted saturation / pore water pressure can also dramatically impact and reduce shear strength, or cohesion values in soils.

For the purpose of assessing subsoil stability for the Site a conservative undrained shear strength (effective cohesion) value will be used in numerical assessments, i.e., 40 kPa.

In situ bulk density (kg/m^3), or bulk unit weight (kN/m^3) of soils/subsoils (y), namely silty sandy subsoils, is typically within the range of 2500 to 2700 kg/m^3, or 24.5 to 26.5 kN/m^3. For the purpose of assessing subsoil stability for the Site a conservative bulk unit weight value will be used in numerical assessments i.e., 27 .0 kN/m^3.

The depth to failure plane (z) is presumed to be thickness or depth of subsoils at any given sampling point being assessed. However, subsoil depths will be inferred in areas of the site with limited data. It should be noted that the failure plane can potentially be within subsoils (subsoil on subsoil movement), or the substrate i.e., weathered bedrock. In relation to the Site specifically, it is important to note the presence of iron pan. Iron pan is a layer of oxidised iron within the subsoil. The iron pan layer is relatively impermeable which can impede or significantly alter groundwater movement in the subsoils. Under the right circumstances the iron pan layer can therefore become a slip or failure plane. In such instances the failure plane has the potential to parallel to the overlying topography.

Slope angle (α) is presumed to be topographical incline measured on site / evaluated using high resolution elevation data at any given sampling point being assessed, however it should be noted that the slope angle (α) relates to the failure plane angle, which is presumed to be the peat and substrate interface, and which is presumed to be parallel to the surface when using FoS Formula (Infinite Slope Formula). In reality the underlying substrate (bedrock) is unlikely to be parallel to the surface topology. However, considering the presence of iron pan in subsoils at the site it is important to consider the potential for parallel failure planes when assessing stability at the site.

It should be noted that FoS Formula does not account for forces related to the toe and head of an area or mass of soil with the potential for mass movement, which is in reality the Infinite Slope formula will likely exaggerate stability conditions negatively.

The following table lists parameter values, including inferred conservative parameter values used in numerical assessments.

Table 6: Formula Parameters, Symbols & Inferred Conservative Values

Symbol	Description	Value	Unit
c_u	Effective cohesion	40	kPa
y	Bulk Unit Weight of Peat	27.0	kN/m3
z	Depth to failure plain	Depth of subsoil to bedrock	m
α	Slope Angle	Surface Topography	Degrees

2.3.2 Risk Matrices & Ranking

In assessing the risk in relation to subsoil stability on site it is important to rate the risk in terms of the hazard, the likelihood and the consequences if any such issue should arise. Therefore, the slope stability risk assessment considers the following parameters, which are assessed by means of a series of risk matrices (Scottish Gov., 2017)

Table 7: Parameters Included in Risk Matrices and Assessed

Category	Description
Landslide History	Considers the likelihood of landslide events occurring based on the history of the site, including the current site use.
Factor of Safety	As described above, includes the following; • Subsoil depth (to failure plain)

Category	Description
	• Subsoil composition (PSD) • Moisture content • Incline (surface topography) • Shear strength • Bulk unit weight of subsoil
Substrate Topology	Identifying and qualifying variance in substrate topology and qualifying variance from theory underlining the stability formula used i.e., Infinite Slope (Parallel and no foot and head forces) **For the purposes of considering worst case conditions (the potential for iron pan and parallel failure plains), substrate topology is considered parallel.**
Significance of Receptor	Qualifying potential receptors in terms of significance.
Distance to Receptor	Qualifying localised proposed development areas in terms of distance to nearest receptor.

Considering the above parameters, the stability assessment follows the following steps;

5. FoS_{RAW} - Assess the site in terms of soil stability using the FoS Formula and calculate a Factor of Safety (FoS) using the *raw* data. This step is considered as preparation of the data obtained for the site i.e., translating the data to a value related to stability, and is not considered the final output of the stability assessment.
6. $FoS_{ADJUSTED}$ - Assess the FoS_{RAW} values in terms of suitability of the application of FoS Formula by considering the history of landslides in relation to the proposed site, and the topology of the substrate compared to the surface topology of the site. This is done by means of a risk matrix which qualifies the point, and also applies a coefficient for the next risk assessment step.
7. Risk Ranking RR_{SF} - The $FoS_{ADJUSTED}$ data is assessed in terms of significance of associated receptor. This is done by means of a risk matrix which qualifies the point, and also applies a coefficient for the next risk assessment step.
8. Risk Ranking RR_D – The RR_{SF} data is assessed in terms of distance to associated receptor. This is done by means of a risk matrix which qualifies the point.

Results and conclusions made by means of the above risk assessment are viewed as two tiered, that is;

1. The likelihood of a stability issue or landslide while considering the significance of the receptor (RR_{SF}).
2. The consequence of a stability issue or landslide while considering the distance to the receptor (RR_D).

For example, (1) The risk of a stability issues or landslide occurring at location X and impacting on receptor Y is negligible. (2) Considering the short distance from location X to receptor Y, in the unlikely event that an issue did arise the risk of adverse impacts effecting receptor Y is moderate.

Risk Matrices are presented in **Appendix I**.

3. Baseline Conditions

3.1 Site Description & History

There no recorded landslide events in close proximity to the Site (GSI, Accessed 2021).

There were no indications of stability issues or mass movement observed on the Site during site surveys.

The Site is mapped as having areas ranging from Low Risk to High Risk in terms of Landslide Stability, that is; full spectrum of slope stability risk categories (GSI, ND). Larger areas of High-Risk landslide susceptibility are associated with relatively expansive steep slopes.

Refer to EIAR baseline section for further information (**Chapter 8: Soils and Geology**).

3.2 Site Geology

Consultation with Geological Survey Ireland Spatial Resources (GSI) indicates that the bedrock at 1:1,000,000 scale the Site is underlain by;

- Gun Point Formation (GP) – Green-grey to purple medium to fine-grained sandstones, interbedded with green and red to purple siltstones to fine sandstones.

The region contains a multitude of complex geological features however, there are no mapped faults or other significant features underlying the area of the Site.

Rocky outcrops are common within the Site Boundary.

Refer to EIAR baseline section for further information (**Chapter 8: Soils and Geology**).

3.3 Site Soils & Subsoils

Consultation with available maps (GSI) indicate that the soil type across the entire area of the Site, and the general area in the region is mostly Blanket Peat and Till derived from Devonian sandstones with several significant areas mapped as being Bedrock at Surface.

Peat depths observed on the Site are generally 'Rock' to 'shallow' with isolated pockets of moderately deep peat, however depths at most sampling points are within the range of 0.0-0.5 m and areas with deeper, particularly extremely deep peat have been avoided in terms of the Project footprint. Peat depths are mapped and presented in **Appendix A**.

Peat quality assessment (by gouge coring / trial pitting / observations at cut locations) indicate relatively moderate to high Von Post values (generally H5 to H8) across the Site.

Refer to EIAR baseline section for further information (**Chapter 8: Soils and Geology**).

3.4 Topography & Substrate Topology

The topography at and in the immediate area surrounding the Site is highly variable with multiple peaks, ridges with variable elevations and inclines. At lower elevations the topography is relatively flat or comprising of low magnitude inclines, however at mid and high elevation relative to the Site, steep high magnitude inclines are commonplace.

Site observations indicate that the substrate topology varies significantly to surface topology. Highest rates of variance are associated with areas which include deeper peat, that is; areas of deeper peat are contained with "pockets" delineated by areas or ridges of shallow bedrock. Areas with generally shallower peat have less variance from the substrate however such areas are indicatively low risk in terms of stability given the peat is shallow.

3.5 Hydrology & Climate

Three (3no.) mapped rivers run through and directly adjacent to the Site. Several extensive constructed drainage channels associated with forestry, agriculture and peat cutting activities exist at the site.

Refer to EIAR baseline section for further information (**Chapter 9: Hydrology and Hydrogeology**).

3.6 Receptors

Receptors associated with the Project footprint are generally limited to non-critical infrastructure and water bodies.

Receptors associated with the Project, which is; streams, rivers, lakes and groundwater, are considered highly sensitive receptors considering;

- 'Good' WFD River status and objective to protect same.
- 'Moderate' WFD Lake (Carrigdrohid) status and objective to restore same to at least good status by 2027.
- The numerous downgradient designations (sensitive protected areas) associated with each of the two associated catchments and the sensitive habitats and species associated with same.
- Designation of some downgradient surface water bodies and all groundwater bodies as sources of drinking water (Sullane_050).

Ultimately, all surface water and groundwater associated with the Site is considered sensitive and must be protected.

Risk to receptors must consider both the hazard, and likelihood of adversely impacting on any given sensitive receptor, and therefore parameters such as; distance from potential source of hazard to receptor, pathway directness and/or connectivity, and assimilative capacity of the receiving water body should also be considered.

Distance of proposed turbine and hard stand areas have been assessed in terms of distance to associates receptors (surface water features), the results for which are presented in **Appendix I.**

Refer to EIAR baseline section for further information (**Chapter 9: Hydrology and Hydrogeology**).

4. Site Investigation Data & Results

4.1 Peat Depth Data

Approximately 150 no. peat depth probe locations were assessed at the Site. Georeferenced and categorized peat depth locations are presented in **Appendix A**. Peat depth data is presented in **Appendix B**. Number of probe locations by Depth Category are presented in **Table 8**.

Table 8: Peat Depth Probe Points per Depth Category

Peat Depth Category	No.
A – Rock (0.00-0.01 m)	16
B – Very Shallow (0.01-0.5 m)	92
C – Shallow (0.5-2.0 m)	66
D – Moderately Deep (2.0-3.5m)	12
E – Deep (3.5-5.0 m)	1
F – Very Deep (>5.0 m)	0
TOTAL	187 (21 Inferred)

4.2 Trial Pit Data

A total of 16 no. Trial Pits were completed, logged and sampled at the Site. Trial Pit and Borehole locations are presented in **Appendix C**. Trial Pit Logs are presented in **Appendix D**. Trial Pit and Site Investigation Photos are presented in **Appendix E**. A total of 3 no. subsoil samples were obtained from the Site and tested for particle size distribution (PSD). Subsoil laboratory certificates are presented in **Appendix G**.

Particle Size Distribution (PSD) Soil Description results for subsoils (BS 1377: Part 2: 1990: Clause 9) at the site are presented in **Table 9**. Note: cobble size particles observed on trial pit log sheets and have likely been screened out to a degree at the time of sampling.

Table 9: Reported Subsoil Description (PSD)

Sample ID	Cobbles (%)	Gravel (%)	Sand (%)	Silt & Clay (%)	Description
TP03-A2 (SS1)	0.0	43.0	32.0	25.0	Very clayey very sandy GRAVEL
TP08-A2 (SS1)	0.0	50.0	19.0	31.0	Slightly sandy gravelly CLAY
TP11-A2 (SS1)	0.0	51.0	26.0	22.0	Very clayey very sandy GRAVEL

Cobbles were observed on site and were likely screened out at the time of sampling. Further details are presented in **Appendix D.** Iron pan was observed in several trial pits as listed in **Appendix H**, and presented in **Appendix C, Appendix D** and **Appendix E**.

4.3 Borehole Data

A total of 1 no. rotary core borehole was completed, logged, and sampled at the Site. Borehole logs are presented in **Appendix F**. Drill logs indicate that;

- Bedrock underlying the site is described as SILTSTONE (BH01I)
- Bedrock shows minor signs of weathering.
- Driller notes water strike at BH01I at ~2.50m bGL likley perched groundwater on top of unweathered bedrock. .

Siltstone is mainly comprised of silt-sized particles. Silt-sized particles range between 0.002 and 0.063 millimeters in diameter (BS 5930). They are intermediate in size between coarse clay on the small side and fine sand on the large side.

Bedrock cores obtained were tested for Unconfined Compressive Strength (UCS) and Point Load Strength (PL). Rock core testing laboratory certificates are presented in **Appendix F**. Unconfined Compressive Strength (UCS) results presented in **Table 10** indicate bedrock underlying the site is considered weak.

Table 10: Bedrock Core Laboratory Strength Testing Results

Parameter	(Unit)	BH01I
UCS Results	*Kn*	23.3
UCS Results	*MPa*	5.17
Rock Strength (UCS MPa)	*BS 5930* *BS EN ISO 14689*	Weak

4.4 Peat Stability Risk Assessment Results

Review of peat stability assessment result data and maps as presented in **Appendix I** indicate that the factor of safety is generally acceptable and very low to low stability risk across the site with the exception of minor isolated areas or pockets of deeper peat.

Summary of risk at the site under varying conditions and scenarios is presented in in the following tables.

Table 11: Factor of Safety (Adjusted) at Peat Probe Locations

	Acceptable	Marginally Stable	Unstable
FoS (Adj.) Scenario A	149	1	0
FoS (Adj.) Scenario B	118	24	8

Table 12: Risk Ranking (Distance) at Peat Probe Locations

	Very Low	Low	Moderate	High
RR (Dist.) Scenario A	104	11	34	1
RR (Dist.) Scenario B	81	27	37	5

Areas of elevated stability risk, even at a localised scale, are considered geo-hazards requiring mitigation. Geo-hazards are presented in **Appendix H**.

The following plates present the available peat data per proposed turbine locations, including the results of numerical model stability risk assessment.

SI Appendix B - Peat & Subsoil Survey Database
Inchamore WF, Co. Cork

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Sample / Test Category	Sample / Test Point ID No.	Association	ITM Easting	ITM Northing	Thickness / Depth of peat	Classification of Thickness / Depth of peat	Slope (Extracted from GDEM)	Note	Scenario A FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	FoS Adjustment Coefficient	FoS Adjustment Value	Scenario A FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Significant Feature Ranking Cefficient	Scenario A RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Scenario B RR_{SF} Ranking Risk re Potential for Adverse Consequence on Sensitive Receptors	COEFFICIENT	Distance to Sensitive Receptor	Receptor Coefficient Point	Scenario A RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category	Scenario B RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category
					m		Degrees		FoS		FoS		#		FoS		FoS		μSF	ARLSF		ARLSF		m		ARLD		ARLD	
Depth Probe	DP001	T1	512342.9	578929.9	0.1	B - Very Shallow (0.01-0.5m)	5.76569		3183	1.0	2.89	1.0	2.0	0.0	3183	1.0	2.89	1.0	2.0	2.0	1.0	2.0	1.0	420.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP002	T1	512346.9	578942.9	0.1	B - Very Shallow (0.01-0.5m)	5.76569		3183	1.0	2.89	1.0	2.0	0.0	3183	1.0	2.89	1.0	2.0	2.0	1.0	2.0	1.0	419.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP003	T1	512380.9	579012.9	0.2	B - Very Shallow (0.01-0.5m)	2.54332		35.89	1.0	5.98	1.0	2.0	0.0	35.89	1.0	5.98	1.0	2.0	2.0	1.0	2.0	1.0	414.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP004	T1	512389.9	578941.9	0.1	B - Very Shallow (0.01-0.5m)	5.89516		31.14	1.0	2.83	1.0	2.0	0.0	31.14	1.0	2.83	1.0	2.0	2.0	1.0	2.0	1.0	379.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP005	T1	512385.9	578926.9	0.1	B - Very Shallow (0.01-0.5m)	10.09382	Rocky outcrop east west steap	18.44	1.0	1.68	1.0	2.0	0.0	18.44	1.0	1.68	1.0	2.0	2.0	1.0	2.0	1.0	368.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP006	T1	512401.9	579040.9	0.7	C - Shallow (0.5-2.0m)	6.0615	Cut peat. Photo 1150	4.22	1.0	1.79	1.0	2.0	0.0	4.22	1.0	1.79	1.0	2.0	2.0	1.0	2.0	1.0	349.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP007	T1	512411.9	579079.9	0.6	C - Shallow (0.5-2.0m)	2.61166		11.65	1.0	4.37	1.0	2.0	0.0	11.65	1.0	4.37	1.0	2.0	2.0	1.0	2.0	1.0	368.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP008	T1	512440.9	579785.9	2.1	D - Moderately Deep (2.0-3.5m	4.97205		1.75	1.0	1.19	2.0	2.0	0.0	1.75	1.0	1.19	2.0	2.0	2.0	1.0	4.0	2.0	315.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP009	T1	512447.9	579987.9	1	C - Shallow (0.5-2.0m)	3.12206		5.85	1.0	2.93	1.0	2.0	0.0	5.85	1.0	2.93	1.0	2.0	2.0	1.0	2.0	1.0	343.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP010	T1	512450.9	579040.9	0.0001	A - Rock (0.0m)	0.07093	Rock	207440.24	1.0	20.74	1.0	2.0	0.0	207440.24	1.0	20.74	1.0	2.0	2.0	1.0	2.0	1.0	367.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP011	T1	512465.9	579026.9	1.2	C - Shallow (0.5-2.0m)	0.67893	Rocky adjacent	17.29	1.0	9.43	1.0	2.0	0.0	17.29	1.0	9.43	1.0	2.0	2.0	1.0	2.0	1.0	348.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP014	T1	512513	579076	1.1	C - Shallow (0.5-2.0m)	2.52049		6.58	1.0	3.45	1.0	2.0	0.0	6.58	1.0	3.45	1.0	2.0	2.0	1.0	2.0	1.0	345.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP015	T1	512521.9	578733.9	0.0001	A - Rock (0.0m)	6.05489	Rock	30334.02	1.0	3.03	1.0	2.0	0.0	30334.02	1.0	3.03	1.0	2.0	2.0	1.0	2.0	1.0	245.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP016	T1	512524	579140	0.0001	A - Rock (0.0m)	2.06887	Rock	87351.72	1.0	8.73	1.0	2.0	0.0	87351.72	1.0	8.73	1.0	2.0	2.0	1.0	2.0	1.0	387.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP017	T1	512528	579089	0.0001	A - Rock (0.0m)	4.37171	Rock	41883.21	1.0	4.19	1.0	2.0	0.0	41883.21	1.0	4.19	1.0	2.0	2.0	1.0	2.0	1.0	287.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP018	T1	512529	579026	0.0001	A - Rock (0.0m)	3.27531	Rock	55781.75	1.0	5.58	1.0	2.0	0.0	55781.75	1.0	5.58	1.0	2.0	2.0	1.0	2.0	1.0	286.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP019	T1	512532	579219	2.1	D - Moderately Deep (2.0-3.5m	4.90234		1.78	1.0	1.21	2.0	2.0	0.0	1.78	1.0	1.21	2.0	2.0	2.0	1.0	4.0	2.0	450.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP021	T1	512543	579001	0.0001	A - Rock (0.0m)	3.35734	Rock	54424.05	1.0	5.44	1.0	2.0	0.0	54424.05	1.0	5.44	1.0	2.0	2.0	1.0	2.0	1.0	271.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP022	T1	512544	579108	2.6	D - Moderately Deep (2.0-3.5m	2.00689		3.50	1.0	2.53	1.0	2.0	0.0	3.50	1.0	2.53	1.0	2.0	2.0	1.0	2.0	1.0	350.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP024	T1	512545	579027	2.8	D - Moderately Deep (2.0-3.5m	2.39487		2.72	1.0	2.01	1.0	2.0	0.0	2.72	1.0	2.01	1.0	2.0	2.0	1.0	2.0	1.0	287.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP025	T1	512548.9	579095.9	1.5	C - Shallow (0.5-2.0m)	2.00689	Rocky adjacent photo	6.06	1.0	3.64	1.0	2.0	0.0	6.06	1.0	3.64	1.0	2.0	2.0	1.0	2.0	1.0	337.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP026	T1	512550	579167	2.5	D - Moderately Deep (2.0-3.5m	1.48887		4.90	1.0	3.50	1.0	2.0	0.0	4.90	1.0	3.50	1.0	2.0	2.0	1.0	2.0	1.0	286.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP027	T1	512550	579019	2.2	D - Moderately Deep (2.0-3.5m	3.35734		2.47	1.0	1.70	1.0	2.0	0.0	2.47	1.0	1.70	1.0	2.0	2.0	1.0	2.0	1.0	278.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP028	T1	512554	579029	3	D - Moderately Deep (2.0-3.5m	2.39497		2.54	1.0	1.91	1.0	2.0	0.0	2.54	1.0	1.91	1.0	2.0	2.0	1.0	2.0	1.0	282.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP029	T1	512556.9	579097.9	2.5	D - Moderately Deep (2.0-3.5m	2.00689	Rocky adjacent photo	3.64	1.0	2.60	1.0	2.0	0.0	3.64	1.0	2.60	1.0	2.0	2.0	1.0	2.0	1.0	334.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP030	T1	512569	579056	3	D - Moderately Deep (2.0-3.5m	4.10768		1.48	1.0	1.11	2.0	2.0	0.0	1.48	1.0	1.11	2.0	2.0	2.0	1.0	4.0	2.0	293.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP031	T1	512570	579177	2.1	D - Moderately Deep (2.0-3.5m	1.88168		4.62	1.0	3.13	1.0	2.0	0.0	4.62	1.0	3.13	1.0	2.0	2.0	1.0	2.0	1.0	396.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP032	T1	512580	579018	0.1	B - Very Shallow (0.01-0.5m)	7.22121		25.52	1.0	2.32	1.0	2.0	0.0	25.52	1.0	2.32	1.0	2.0	2.0	1.0	2.0	1.0	257.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP033	T1	512597	579002	1.1	C - Shallow (0.5-2.0m)	7.22121		2.72	1.0	1.22	2.0	2.0	0.0	2.72	1.0	1.22	2.0	2.0	2.0	1.0	4.0	2.0	247.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP034	T1	512591	578975	0.0001	A - Rock (0.0m)	6.88087	Rocky adjacent	26750.90	1.0	2.67	1.0	2.0	0.0	26750.90	1.0	2.67	1.0	2.0	2.0	1.0	2.0	1.0	286.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP035	T1	512594	579124	1.1	C - Shallow (0.5-2.0m)	1.44436		11.40	1.0	6.01	1.0	2.0	0.0	11.40	1.0	6.01	1.0	2.0	2.0	1.0	2.0	1.0	346.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP038	T1	512614	579091	2.5	D - Moderately Deep (2.0-3.5m	4.16378		1.76	1.0	1.26	2.0	2.0	0.0	1.76	1.0	1.26	2.0	2.0	2.0	1.0	4.0	2.0	286.8	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP041	T1	512635	579052	2	C - Shallow (0.5-2.0m)	3.80355		2.63	1.0	1.74	1.0	2.0	0.0	2.63	1.0	1.74	1.0	2.0	2.0	1.0	2.0	1.0	254.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP043	T1	512645	579030	0.0001	A - Rock (0.0m)	4.87526	Rock	37574.96	1.0	3.76	1.0	2.0	0.0	37574.96	1.0	3.76	1.0	2.0	2.0	1.0	2.0	1.0	230.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP044	T1	512651	579011	0.2	B - Very Shallow (0.01-0.5m)	5.35167		15.43	1.0	2.57	1.0	2.0	0.0	15.43	1.0	2.57	1.0	2.0	2.0	1.0	2.0	1.0	280.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP046	T1	512657	579131	1.4	C - Shallow (0.5-2.0m)	4.51586		2.90	1.0	1.69	1.0	2.0	0.0	2.90	1.0	1.69	1.0	2.0	2.0	1.0	2.0	1.0	315.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP047	T1	512657	579131	1.1	C - Shallow (0.5-2.0m)	4.51586		3.63	1.0	1.93	1.0	2.0	0.0	3.63	1.0	1.93	1.0	2.0	2.0	1.0	2.0	1.0	315.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP048	T1	512657.9	579097.9	1.2	C - Shallow (0.5-2.0m)	4.63283		3.29	1.0	1.80	1.0	2.0	0.0	3.29	1.0	1.80	1.0	2.0	2.0	1.0	2.0	1.0	287.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP049	T1	512671	579968	0.0001	A - Rock (0.0m)	8.54413	Rock	21656.48	1.0	2.17	1.0	2.0	0.0	21656.48	1.0	2.17	1.0	2.0	2.0	1.0	2.0	1.0	163.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP13	T1	512585	579311	0.1	B - Very Shallow (0.01-0.5m)	6.30381		29.15	1.0	2.65	1.0	2.0	0.0	29.15	1.0	2.65	1.0	2.0	2.0	1.0	2.0	1.0	162.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP14	T1	512554	579045	3.1	D - Moderately Deep (2.0-3.5m	2.39487		2.46	1.0	1.86	1.0	2.0	0.0	2.46	1.0	1.86	1.0	2.0	2.0	1.0	2.0	1.0	287.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP15	T1	512429	579989	0.3	B - Very Shallow (0.01-0.5m)	3.12206		19.50	1.0	4.50	1.0	2.0	0.0	19.50	1.0	4.50	1.0	2.0	2.0	1.0	2.0	1.0	351.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP16	T1	512293	579880	0.2	B - Very Shallow (0.01-0.5m)	4.67019	Groundwater logged at base	19.60	1.0	3.27	1.0	2.0	0.0	19.60	1.0	3.27	1.0	2.0	2.0	1.0	2.0	1.0	482.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk

Plate 1: Peat Data & Risk Assessment Results – T1

SI Appendix B - Peat & Subsoil Survey Database
Inchamore WF, Co. Cork

Prepared by: SK 07/02/2023
RSK File Ref.: 603679-00.xls

Sample / Test Category	Sample / Test Point ID No.	Association	ITM Easting	ITM Northing	Thickness / Depth of peat	Classification of Thickness / Depth of peat	Slope (Extracted from GDEM)	Note	Scenario A FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	FoS Adjustment Coefficient	FoS Adjustment Value	Scenario A FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Significant Feature Ranking Cefficient	Scenario A RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Scenario B RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Distance to Sensitive Receptor	ance to Sensitive Receptor Coefficient Point	Scenario A RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category	Scenario B RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category
					m		Degrees		FoS		FoS		#		FoS		FoS		μSF						m		RR_D		RR_D	
Depth Probe	DP051	T2	512689.9	578676.9	0.3	B - Very Shallow (0.01-0.5m)	9.62354	Rocky adjacent	6.43	1.0	1.48	1.0	2.0	0.0	6.43	1.0	1.48	1.0	2.0	2.0	1.0	2.0	1.0	127.5	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP052	T2	512707.1	578640.5	0.0001	A - Rock (0.0m)	9.58034		21567.22	1.0	2.16	1.0	2.0	0.0	21567.22	1.0	2.16	1.0	2.0	2.0	1.0	2.0	1.0	133.1	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP056	T2	512772.9	578616	0.0001	A - Rock (0.0m)	9.15998	Rock	20245.52	1.0	2.02	1.0	2.0	0.0	20245.52	1.0	2.02	1.0	2.0	2.0	1.0	2.0	1.0	98.0	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP057	T2	512776.8	578593	0.2	B - Very Shallow (0.01-0.5m)	9.60824		9.67	1.0	1.61	1.0	2.0	0.0	9.67	1.0	1.61	1.0	2.0	2.0	1.0	2.0	1.0	112.8	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP059	T2	512806.8	578632.9	0.1	B - Very Shallow (0.01-0.5m)	10.32984	Rocky adjacent	18.04	1.0	1.64	1.0	2.0	0.0	18.04	1.0	1.64	1.0	2.0	2.0	1.0	2.0	1.0	62.8	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP061	T2	512811.8	578616	0.1	B - Very Shallow (0.01-0.5m)	10.19738	Rocky adjacent	18.26	1.0	1.66	1.0	2.0	0.0	18.26	1.0	1.66	1.0	2.0	2.0	1.0	2.0	1.0	74.2	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP062	T2	512816	578491.8	0.2	B - Very Shallow (0.01-0.5m)	11.45979		8.17	1.0	1.36	1.0	2.0	0.0	8.17	1.0	1.36	1.0	2.0	2.0	1.0	2.0	1.0	174.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP063	T2	512818.8	578667.9	0.1	B - Very Shallow (0.01-0.5m)	9.95796	Rocky adjacent	20.69	1.0	1.88	1.0	2.0	0.0	20.69	1.0	1.88	1.0	2.0	2.0	1.0	2.0	1.0	28.1	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP065	T2	512848.8	578655.9	0.1	B - Very Shallow (0.01-0.5m)	7.50123	Rocky adjacent	24.59	1.0	2.22	1.0	2.0	0.0	24.59	1.0	2.22	1.0	2.0	2.0	1.0	2.0	1.0	20.2	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP066	T2	512852	578578	0.1	B - Very Shallow (0.01-0.5m)	7.07017		26.05	1.0	2.37	1.0	2.0	0.0	26.05	1.0	2.37	1.0	2.0	2.0	1.0	2.0	1.0	83.5	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP067	T2	512896.6	578530.5	0.0001	A - Rock (0.0m)	8.89802	Rocky	2082141	1.0	2.08	1.0	2.0	0.0	2082141	1.0	2.08	1.0	2.0	2.0	1.0	2.0	1.0	82.0	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP068	T2	512902.1	578513.3	0.3	B - Very Shallow (0.01-0.5m)	8.89802		6.34	1.0	1.60	1.0	2.0	0.0	6.34	1.0	1.60	1.0	2.0	2.0	1.0	2.0	1.0	104.3	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP070	T2	512948	578538	0.5	B - Very Shallow (0.01-0.5m)	11.23164		3.30	1.0	1.10	2.0	2.0	0.0	3.30	1.0	1.10	2.0	2.0	2.0	1.0	4.0	2.0	60.0	2.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP152	T2	512949	578544.3	0.5	B - Very Shallow (0.01-0.5m)	7.6984	INFERRED	4.79	1.0	1.60	1.0	2.0	0.0	4.79	1.0	1.60	1.0	2.0	2.0	1.0	2.0	1.0	113.2	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP153	T2	512907.2	578564	0.5	B - Very Shallow (0.01-0.5m)	9.07025	INFERRED	0.43	1.0	0.87	1.0	2.0	0.0	0.43	1.0	0.87	1.0	2.0	2.0	1.0	2.0	1.0	60.0	2.0	2.0	D - Low Risk	2.0	D - Low Risk
Depth Probe	DP154	T2	512883.7	578588.7	0.5	B - Very Shallow (0.01-0.5m)	8.5471	INFERRED	5.62	1.0	1.87	1.0	2.0	0.0	5.62	1.0	1.87	1.0	2.0	2.0	1.0	2.0	1.0	57.8	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP155	T2	512898.3	578605.5	0.5	B - Very Shallow (0.01-0.5m)	12.38986	INFERRED	3.04	1.0	1.01	2.0	2.0	0.0	3.04	1.0	1.01	2.0	2.0	2.0	1.0	4.0	2.0	35.0	4.0	8.0	D - High Risk	8.0	D - High Risk
Depth Probe	DP156	T2	512911.6	578622.7	0.5	B - Very Shallow (0.01-0.5m)	13.05768	INFERRED	7.22	1.0	1.20	2.0	2.0	0.0	7.22	1.0	1.20	2.0	2.0	2.0	1.0	4.0	2.0	13.4	4.0	8.0	D - High Risk	8.0	D - High Risk
Depth Probe	DP157	T2	512918.4	578639.4	0.5	B - Very Shallow (0.01-0.5m)	13.63092	INFERRED	2.78	1.0	0.93	4.0	2.0	0.0	2.78	1.0	0.93	4.0	2.0	2.0	1.0	8.0	4.0	3.2	4.0	16.0	D - High Risk	16.0	D - High Risk
Depth Probe	DP158	T2	512923.9	578637.6	0.5	B - Very Shallow (0.01-0.5m)	9.73503	INFERRED	3.82	1.0	1.27	2.0	2.0	0.0	3.82	1.0	1.27	2.0	2.0	2.0	1.0	4.0	2.0	5.9	4.0	8.0	D - High Risk	8.0	D - High Risk
Depth Probe	DP159	T2	512935.6	578651.5	0.5	B - Very Shallow (0.01-0.5m)	9.71503	INFERRED	3.82	1.0	1.27	2.0	2.0	0.0	3.82	1.0	1.27	2.0	2.0	2.0	1.0	4.0	2.0	24.0	4.0	8.0	D - High Risk	8.0	D - High Risk
Depth Probe	DP160	T2	512944.9	578665.1	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	8.4	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP161	T2	512955.3	578672.9	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	4.5	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP162	T2	512963.9	578683.4	0.5	B - Very Shallow (0.01-0.5m)	7.25883	INFERRED	5.00	1.0	1.65	1.0	2.0	0.0	5.00	1.0	1.65	1.0	2.0	2.0	1.0	2.0	1.0	26.4	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP163	T2	512982.8	578704.9	0.5	B - Very Shallow (0.01-0.5m)	7.52427	INFERRED	4.90	1.0	1.63	1.0	2.0	0.0	4.90	1.0	1.63	1.0	2.0	2.0	1.0	2.0	1.0	46.0	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP164	T2	512980.8	579719.5	0.5	B - Very Shallow (0.01-0.5m)	12.32755	INFERRED	3.05	1.0	1.02	2.0	2.0	0.0	3.05	1.0	1.02	2.0	2.0	2.0	1.0	4.0	2.0	36.2	4.0	8.0	D - High Risk	8.0	D - High Risk
Depth Probe	DP165	T2	512900.5	579702	0.5	B - Very Shallow (0.01-0.5m)	14.02991	INFERRED	2.71	1.0	0.90	4.0	2.0	0.0	2.71	1.0	0.90	4.0	2.0	2.0	1.0	8.0	4.0	23.8	4.0	16.0	D - High Risk	16.0	D - High Risk
Depth Probe	DP166	T2	512903.8	578682.3	0.5	B - Very Shallow (0.01-0.5m)	14.77308	INFERRED	2.58	1.0	0.86	4.0	2.0	0.0	2.58	1.0	0.86	4.0	2.0	2.0	1.0	8.0	4.0	15.8	4.0	16.0	D - High Risk	16.0	D - High Risk
Depth Probe	DP167	T2	512930.3	578679	0.5	B - Very Shallow (0.01-0.5m)	7.95622	INFERRED	4.64	1.0	1.55	1.0	2.0	0.0	4.64	1.0	1.55	1.0	2.0	2.0	1.0	2.0	1.0	9.0	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP168	T2	512942	578670.6	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	6.5	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP169	T2	512956.9	578659.9	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	2.2	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP170	T2	512974.7	578650.2	0.5	B - Very Shallow (0.01-0.5m)	7.77752	INFERRED	4.75	1.0	1.58	1.0	2.0	0.0	4.75	1.0	1.58	1.0	2.0	2.0	1.0	2.0	1.0	2.8	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP171	T2	512991.6	578638.9	0.5	B - Very Shallow (0.01-0.5m)	7.79146	INFERRED	4.74	1.0	1.58	1.0	2.0	0.0	4.74	1.0	1.58	1.0	2.0	2.0	1.0	2.0	1.0	3.1	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Trail Pit	TP11	T2	512791	578602	0.4	B - Very Shallow (0.01-0.5m)	12.49507		3.77	1.0	1.06	2.0	2.0	0.0	3.77	1.0	1.06	2.0	2.0	2.0	1.0	4.0	2.0	103.3	2.0	2.0	B - Low Risk	4.0	C - Moderate Risk
Trail Pit	TP12	T2	512867	578632	0.3	B - Very Shallow (0.01-0.5m)	9.46395		6.54	1.0	1.51	1.0	2.0	0.0	6.54	1.0	1.51	1.0	2.0	2.0	1.0	2.0	1.0	30.1	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk

Plate 2: Peat Data & Risk Assessment Results – T2

SI Appendix B - Peat & Subsoil Survey Database

Inchamore WF, Co. Cork

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Sample / Test Category	Sample / Test Point ID No.	Association	ITM Easting	ITM Northing	Thickness / Depth of peat	Classification of Thickness / Depth of peat	Slope (Extracted from GDEM)	Note	Scenario A FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	FoS Adjustment Coefficient	FoS Adjustment Value	Scenario A FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Significant Feature Ranking Cefficient	Scenario A RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Scenario B RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Distance to Sensitive Receptor	Distance to Sensitive Receptor Coefficient (POINTS)	Scenario A RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category	Scenario B RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category
					m		Degrees		FoS		FoS		#		FoS		FoS		μSF	RR-SF		RR-SF		m		RR-D		RR-D	
Depth Probe	DP058	T3	512786.9	579087.9	0.9	C - Shallow (0.5-2.0m)	8.27299		2.48	1.0	1.18	2.0	2.0	0.0	2.48	1.0	1.18	2.0	2.0	2.0	1.0	4.0	2.0	225.7	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP060	T3	512811	579022	1	C - Shallow (0.5-2.0m)	12.51684		1.50	1.0	0.75	4.0	2.0	0.0	1.50	1.0	0.75	4.0	2.0	2.0	1.0	8.0	4.0	157.8	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP064	T3	512837	579015	0.4	B - Very Shallow (0.01-0.5m)	10.70968	Deeply erdoed drain	4.35	1.0	1.25	2.0	2.0	0.0	4.35	1.0	1.25	2.0	2.0	2.0	1.0	4.0	2.0	149.3	2.0	2.0	B - Low Risk	4.0	C - Moderate Risk
Depth Probe	DP063	T3	512940.8	579093.8	0.9	C - Shallow (0.5-2.0m)	9.24406	Cut peat photo	2.23	1.0	1.06	2.0	2.0	0.0	2.23	1.0	1.06	2.0	2.0	2.0	1.0	4.0	2.0	254.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP071	T3	512967	579286	0.0001	A - Rock (0.0m)	4.87812	Cut peat	37853.14	1.0	3.75	1.0	2.0	0.0	37853.14	1.0	3.75	1.0	2.0	2.0	1.0	2.0	1.0	442.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP072	T3	512968	579286	0.6	C - Shallow (0.5-2.0m)	4.87812	Uncut peat	6.26	1.0	2.35	1.0	2.0	0.0	6.26	1.0	2.35	1.0	2.0	2.0	1.0	2.0	1.0	442.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP073	T3	512960	579238	0.0001	A - Rock (0.0m)	6.08375	Cut peat	30192.28	1.0	3.02	1.0	2.0	0.0	30192.28	1.0	3.02	1.0	2.0	2.0	1.0	2.0	1.0	401.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP074	T3	512981	579239	0.6	C - Shallow (0.5-2.0m)	6.08375	Uncut peat	5.03	1.0	1.89	1.0	2.0	0.0	5.03	1.0	1.89	1.0	2.0	2.0	1.0	2.0	1.0	403.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP075	T3	512996	579176	0.1	B - Very Shallow (0.01-0.5m)	8.00388	Cut peat	23.08	1.0	2.10	1.0	2.0	0.0	23.08	1.0	2.10	1.0	2.0	2.0	1.0	2.0	1.0	352.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP076	T3	512997	579176	1.5	C - Shallow (0.5-2.0m)	8.00388	Uncut peat	1.54	1.0	0.92	4.0	2.0	0.0	1.54	1.0	0.92	4.0	2.0	2.0	1.0	8.0	4.0	353.1	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP077	T3	513000	579133	0.1	B - Very Shallow (0.01-0.5m)	7.86543		23.47	1.0	2.13	1.0	2.0	0.0	23.47	1.0	2.13	1.0	2.0	2.0	1.0	2.0	1.0	317.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP078	T3	513000	579134	1.1	C - Shallow (0.5-2.0m)	7.86543	Uncut peat, inferred.	2.13	1.0	1.12	2.0	2.0	0.0	2.13	1.0	1.12	2.0	2.0	2.0	1.0	4.0	2.0	316.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP079	T3	513001	579094	1.1	C - Shallow (0.5-2.0m)	10.71365	Cut peat on rill	1.58	1.0	0.83	4.0	2.0	0.0	1.58	1.0	0.83	4.0	2.0	2.0	1.0	8.0	4.0	278.3	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP080	T3	512626.8	579808.8	0.4	B - Very Shallow (0.01-0.5m)	10.70869	Cut peat photo	4.35	1.0	1.24	2.0	2.0	0.0	4.35	1.0	1.24	2.0	2.0	2.0	1.0	4.0	2.0	353.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP091	T2	512022	579064	0.2	B - Very Shallow (0.01-0.5m)	10.72667	Top of steep slope	9.69	1.0	1.46	1.0	2.0	0.0	9.69	1.0	1.46	1.0	2.0	2.0	1.0	2.0	1.0	276.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP082	T3	513052.9	579088.8	1	C - Shallow (0.5-2.0m)	11.97277		1.57	1.0	0.78	4.0	2.0	0.0	1.57	1.0	0.78	4.0	2.0	2.0	1.0	8.0	4.0	318.5	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP083	T3	513064	579101	0.5	B - Very Shallow (0.01-0.5m)	11.97277	Up out of drain	3.14	1.0	1.05	2.0	2.0	0.0	3.14	1.0	1.05	2.0	2.0	2.0	1.0	4.0	2.0	321.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP084	T3	513084	579172	1.3	C - Shallow (0.5-2.0m)	5.33154		2.65	1.0	1.50	1.0	2.0	0.0	2.65	1.0	1.50	1.0	2.0	2.0	1.0	2.0	1.0	383.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP085	T3	513097.8	579888.9	0.1	B - Very Shallow (0.01-0.5m)	10.52563		17.72	1.0	1.61	1.0	2.0	0.0	17.72	1.0	1.61	1.0	2.0	2.0	1.0	2.0	1.0	2015	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP086	T3	513098.8	579059.9	0.9	C - Shallow (0.5-2.0m)	7.92501		2.91	1.0	1.28	2.0	2.0	0.0	2.91	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	317.2	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP087	T3	513098.8	579059.9	1.8	C - Shallow (0.5-2.0m)	7.92501		1.29	2.0	0.83	4.0	2.0	0.0	1.29	2.0	0.83	4.0	2.0	4.0	2.0	8.0	4.0	317.2	1.0	2.0	B - Low Risk	4.0	C - Moderate Risk
Depth Probe	DP088	T3	513098.8	579318	0.8	C - Shallow (0.5-2.0m)	9.833155		2.36	1.0	1.05	2.0	2.0	0.0	2.36	1.0	1.05	2.0	2.0	2.0	1.0	4.0	2.0	363.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP089	T3	513134.8	579324.9	1.1	C - Shallow (0.5-2.0m)	8.46323		1.99	1.0	1.04	2.0	2.0	0.0	1.99	1.0	1.04	2.0	2.0	2.0	1.0	4.0	2.0	318.4	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP091	T3	513149	579188	0.9	C - Shallow (0.5-2.0m)	7.11033		2.68	1.0	1.36	1.0	2.0	0.0	2.68	1.0	1.36	1.0	2.0	2.0	1.0	2.0	1.0	323.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP092	T3	513158.8	579061.9	1.1	C - Shallow (0.5-2.0m)	6.035695		2.77	1.0	1.45	1.0	2.0	0.0	2.77	1.0	1.45	1.0	2.0	2.0	1.0	2.0	1.0	303.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP07	T3	512950	578987	0.2	B - Very Shallow (0.01-0.5m)	11.36258		8.24	1.0	1.37	1.0	2.0	0.0	8.24	1.0	1.37	1.0	2.0	2.0	1.0	2.0	1.0	168.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP08	T3	512974	579057	0.2	B - Very Shallow (0.01-0.5m)	9.37515		9.90	1.0	1.65	1.0	2.0	0.0	9.90	1.0	1.65	1.0	2.0	2.0	1.0	2.0	1.0	240.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP09	T3	512989	579081	0.2	B - Very Shallow (0.01-0.5m)	7.6724		12.02	1.0	2.00	1.0	2.0	0.0	12.02	1.0	2.00	1.0	2.0	2.0	1.0	2.0	1.0	268.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk

Plate 3: Peat Data & Risk Assessment Results – T3

SI Appendix B - Peat & Subsoil Survey Database

Inchamore WF, Co. Cork

Prepared by: SK 07/02/2023
RSK File Ref.: 603679-00.xls

Sample / Test Category	Sample / Test Point ID No.	Association	ITM Easting	ITM Northing	Thickness / Depth of peat	Classification of Thickness / Depth of peat	Slope (Extracted from GDEM)	Note	Scenario A: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	FoS Adjustment Coefficient	FoS Adjustment Value	Scenario A: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Significant Feature Ranking Cefficient	Scenario A: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Scenario B: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Distance to Sensitive Receptor	ance to Sensitive Receptor Coefficient	Scenario A: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category	Scenario B: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category
					m		Degrees		FoS		FoS		α	β	FoS		FoS		β						m		RR-D		RR-D	
Depth Probe	DP114	T4	518559.7	579012.9	0.2	B - Very Shallow (0.01-0.5m)	11.1727		8.37	1.0	1.39	1.0	2.0	0.0	8.37	1.0	1.39	1.0	2.0	2.0	1.0	2.0	1.0	191.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP115	T4	518578.7	578822.9	1	C - Shallow (0.5-2.0m)	11.47724		1.63	1.0	0.82	4.0	2.0	0.0	1.63	1.0	0.82	4.0	2.0	2.0	1.0	8.0	4.0	216.8	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP116	T4	518578.7	578993.9	0.1	B - Very Shallow (0.01-0.5m)	8.82442		27.77	1.0	2.52	1.0	2.0	0.0	27.77	1.0	2.52	1.0	2.0	2.0	1.0	2.0	1.0	208.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP117	T4	518682.7	578820.9	1	C - Shallow (0.5-2.0m)	11.47724		1.63	1.0	0.82	4.0	2.0	0.0	1.63	1.0	0.82	4.0	2.0	2.0	1.0	8.0	4.0	219.3	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP118	T4	518687	578762	0.8	C - Shallow (0.5-2.0m)	9.36656	INFERRED, TRACK SIDE	2.48	1.0	1.10	2.0	2.0	0.0	2.48	1.0	1.10	2.0	2.0	2.0	1.0	4.0	2.0	202.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP119	T4	518688.7	578879.9	0.5	B - Very Shallow (0.01-0.5m)	9.79765		3.79	1.0	1.28	2.0	2.0	0.0	3.79	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	223.0	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP120	T4	518714.7	578969.9	0.1	B - Very Shallow (0.01-0.5m)	7.80224		23.66	1.0	2.15	1.0	2.0	0.0	23.66	1.0	2.15	1.0	2.0	2.0	1.0	2.0	1.0	244.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP121	T4	518717	579056	0.3	B - Very Shallow (0.01-0.5m)	11.77141		5.31	1.0	1.23	2.0	2.0	0.0	5.31	1.0	1.23	2.0	2.0	2.0	1.0	4.0	2.0	254.6	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP122	T4	518719.6	578978.9	0.1	B - Very Shallow (0.01-0.5m)	7.80224		23.66	1.0	2.15	1.0	2.0	0.0	23.66	1.0	2.15	1.0	2.0	2.0	1.0	2.0	1.0	243.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP123	T4	518728	579044	0.05	B - Very Shallow (0.01-0.5m)	11.87142		31.61	1.0	1.51	1.0	2.0	0.0	31.61	1.0	1.51	1.0	2.0	2.0	1.0	2.0	1.0	263.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP124	T4	518744	579023	0.2	B - Very Shallow (0.01-0.5m)	12.26207		7.67	1.0	1.28	2.0	2.0	0.0	7.67	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	276.8	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP125	T4	518746	579038	0.2	B - Very Shallow (0.01-0.5m)	12.26207		7.67	1.0	1.28	2.0	2.0	0.0	7.67	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	280.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP126	T4	518755.6	578936.9	0.1	B - Very Shallow (0.01-0.5m)	12.34511		15.23	1.0	1.38	1.0	2.0	0.0	15.23	1.0	1.38	1.0	2.0	2.0	1.0	2.0	1.0	287.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP128	T4	518768	579030	0.2	B - Very Shallow (0.01-0.5m)	8.85635		11.33	1.0	1.89	1.0	2.0	0.0	11.33	1.0	1.89	1.0	2.0	2.0	1.0	2.0	1.0	301.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP129	T4	518774	579048	0.1	B - Very Shallow (0.01-0.5m)	8.85635	Rock	22.66	1.0	2.05	1.0	2.0	0.0	22.66	1.0	2.05	1.0	2.0	2.0	1.0	2.0	1.0	308.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP130	T4	518781	579006	0.2	B - Very Shallow (0.01-0.5m)	5.08511		18.02	1.0	3.00	1.0	2.0	0.0	18.02	1.0	3.00	1.0	2.0	2.0	1.0	2.0	1.0	311.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP131	T4	518798	578986	0.5	B - Very Shallow (0.01-0.5m)	7.69429	Drain 0.8Wsec	4.80	1.0	1.60	1.0	2.0	0.0	4.80	1.0	1.60	1.0	2.0	2.0	1.0	2.0	1.0	327.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP132	T4	518814	578971	0.3	B - Very Shallow (0.01-0.5m)	8.8385		6.91	1.0	1.53	1.0	2.0	0.0	6.91	1.0	1.53	1.0	2.0	2.0	1.0	2.0	1.0	344.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP133	T4	518828	578957	0.05	B - Very Shallow (0.01-0.5m)	6.83989		53.06	1.0	2.53	1.0	2.0	0.0	53.06	1.0	2.53	1.0	2.0	2.0	1.0	2.0	1.0	358.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP134	T4	518844	578940	0.3	B - Very Shallow (0.01-0.5m)	10.06662		6.16	1.0	1.42	1.0	2.0	0.0	6.16	1.0	1.42	1.0	2.0	2.0	1.0	2.0	1.0	375.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trial Pit	TP04	T4	518750	578906	0.4	B - Very Shallow (0.01-0.5m)	12.16074		3.86	1.0	1.10	2.0	2.0	0.0	3.86	1.0	1.10	2.0	2.0	2.0	1.0	4.0	2.0	294.1	1.0	2.0	B - Low Risk	2.0	B - Low Risk
Trial Pit	TP05	T4	518761	579123	0.3	B - Very Shallow (0.01-0.5m)	5.05258		12.09	1.0	2.79	1.0	2.0	0.0	12.09	1.0	2.79	1.0	2.0	2.0	1.0	2.0	1.0	301.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk

Plate 4: Peat Data & Risk Assessment Results – T4

SI Appendix B - Peat & Subsoil Survey Database
Inchamore WF, Co. Cork

Prepared by: SK 07/02/2023
RSK File Ref.: 603679-00.xls

Sample / Test Category	Sample / Test Point ID No.	Association	ITM Easting	ITM Northing	Thickness / Depth of peat	Classification of Thickness / Depth of peat	Slope (Extracted from GDEM)	Note	Scenario A: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	FoS Adjustment Coefficient	FoS Adjustment Value	Scenario A: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Significant Feature Ranking Coefficient	Scenario A: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Scenario B: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Distance to Sensitive Receptor	Distance to Sensitive Receptor Coefficient	Scenario A: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category	Scenario B: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category
									$FoS = \frac{C_u}{\gamma z \sin\beta \cos\beta}$						$FoS = \frac{C_u}{\gamma z \sin\beta \cos\beta} \times$ Adjustment Value				μ_{SF}									
					m		Degrees		FoS	f	FoS	f	n	#	FoS	f	FoS	f	f	RR-SF	f	RR-SF	f	m	n	RR-D		RR-D	
Depth Probe	DP135	T5	513982.6	578542	0.6	C - Shallow (0.5-2.0m)	9.03814		3.42	1.0	1.28	2.0	2.0	0.0	3.42	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	490.7	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP136	T5	514008.6	578535	0.5	B - Very Shallow (0.01-0.5m)	7.20536		5.11	1.0	1.70	1.0	2.0	0.0	5.11	1.0	1.70	1.0	2.0	2.0	1.0	2.0	1.0	512.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP137	T5	514036.6	578555	0.3	B - Very Shallow (0.01-0.5m)	7.1521		5.61	1.0	1.90	1.0	2.0	0.0	5.61	1.0	1.90	1.0	2.0	2.0	1.0	2.0	1.0	527.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP139	T5	514094.6	578581	0.1	B - Very Shallow (0.01-0.5m)	8.42644		21.95	1.0	2.00	1.0	2.0	0.0	21.95	1.0	2.00	1.0	2.0	2.0	1.0	2.0	1.0	601.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP142	T5	514182.9	578674.8	1.2	C - Shallow (0.5-2.0m)	5.54385		2.75	1.0	1.50	1.0	2.0	0.0	2.75	1.0	1.50	1.0	2.0	2.0	1.0	2.0	1.0	685.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trial Pit	TP01	T5	514105	578650	0.2	B - Very Shallow (0.01-0.5m)	6.5237		9.39	1.0	2.17	1.0	2.0	0.0	9.39	1.0	2.17	1.0	2.0	2.0	1.0	2.0	1.0	607.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trial Pit	TP02	T5	513978	578679	1	C - Shallow (0.5-2.0m)	6.22902		2.95	1.0	1.47	1.0	2.0	0.0	2.95	1.0	1.47	1.0	2.0	2.0	1.0	2.0	1.0	480.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trial Pit	TP03	T6	513961	579729	0.8	C - Shallow (0.5-2.0m)	6.66128		1.66	1.0	1.00	1.0	2.0	0.0	1.66	1.0	1.00	1.0	2.0	2.0	1.0	2.0	1.0	469.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk

Plate 5: Peat Data & Risk Assessment Results – T5

Plate 6: Peat Data - FoS (ADJ) (B) with Slope (GDEM) presents peat stability risk assessment Factor of Safety (FoS (ADJ) (Scenario B)) results, receptors and associated 50m buffer zones, and slope (GDEM).

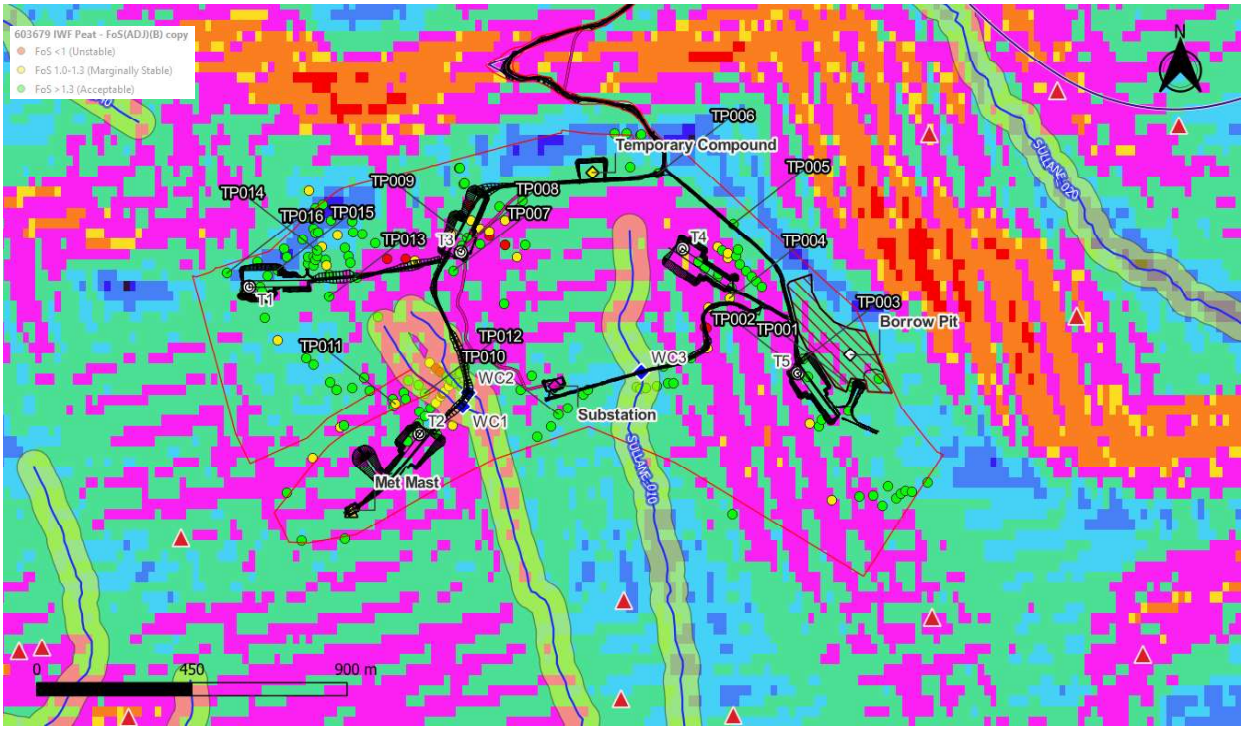

Plate 6: Peat Data - FoS (ADJ) (B) with Slope (GDEM)

4.5 Peat Stability Risk Assessment Interpretation

Table 13: Peat Stability Risk Assessment – Factor of Safety (Adjusted) (Scenario B) at Main Infrastructure Units presents the interpretation of stability risk assessment data in the context of stability, or factor of safety (FoS) (Adjusted, Scenario B) at each significant development infrastructure unit.

Table 13: Peat Stability Risk Assessment – Factor of Safety (Adjusted) (Scenario B) at Main Infrastructure Units

Turbine No. / Unit	**FoS_{ADJ} (Factor of Safety adjusted according considering site specific conditions)**	**Geo-Hazard / Comment (Important to consider when carrying out detailed design and preconstruction planning)**
T1	Generally acceptable. Data indicates peat stability is primarily acceptable, with the exception of * pockets of moderately deeper peat (marginally acceptable / unstable at localised scale north of proposed turbine locality).	Localised steep inclines and potential for pockets of deep peat. Residual risk = localised stability issues. Relatively extensive area of deep peat to north / northwest of development footprint at T1. Development footprint avoids this area however vehicular movements must be managed, and this area avoided completely.
T2	Generally acceptable with localised areas of marginally stable FoS, localised areas of unstable peat. Data indicates that peat depth in the area is generally shallow with relatively extensive rock outcrops. Steep inclines in the area are a key driver of unfavourable results.	Localised steep inclines and potential for pockets of deep peat. Residual risk = localised stability issues. Proximity to receptor (river).
T3	Data indicates peat stability is primarily acceptable, marginally acceptable. Some locations on approach (access tracks) possess locally unstable data due to relatively higher localized slope angles, and/or deeper peat however peat depths are shallow.	Localised steep inclines and potential for pockets of deep peat. Residual risk = localised stability issues.
T4	Generally acceptable. Data indicates peat stability is primarily acceptable, with isolated pockets Marginally acceptable.	Localised steep inclines and potential for pockets of deep peat. Residual risk = localised stability issues.
T5	Generally acceptable. Data indicates peat stability is primarily acceptable, with isolated pockets Marginally acceptable.	Localised steep inclines and potential for pockets of deep peat. Residual risk = localised stability issues.

Turbine No. / Unit	FoS_{ADJ} (Factor of Safety adjusted according considering site specific conditions)	Geo-Hazard / Comment (Important to consider when carrying out detailed design and preconstruction planning)
Met Mast	Generally acceptable. Data indicates peat stability is primarily acceptable, with isolated pockets Marginally acceptable.	Localised steep inclines and potential for pockets of deep peat. Residual risk = localised stability issues.
Borrow Pit	Generally acceptable. Data indicates peat stability is primarily acceptable, with isolated pockets Marginally acceptable.	Localised steep inclines and potential for pockets of deep peat. Residual risk = localised stability issues.
Substation	Data indicates peat stability is acceptable. Very Low Risk in terms of Receptors	Potential for localised stability issues.

The following table presents the interpretation of stability risk assessment data in the context of stability, or factor of safety (FoS) in context of receptor type (RR (SF)) and distance to receptor (RR(D)) at each significant development infrastructure unit.

Table 14: Peat Stability Risk Assessment – Factor of Safety (Adjusted) (Scenario B) at Main Infrastructure Units

Turbine No. / Unit	RR(D) (Ranked Risk considering Distance to Sensitive Receptors)	Geo-Hazard / Comment (Important to consider when carrying out detailed design and preconstruction planning)
T1	Very Low to Low Risk	Localised stability and drainage network.
T2	Low to High Risk	Localised stability and proximity to sensitive receptor (river). Minor, localised stability issues have the potential to have significant adverse impacts on receptors.
T3	Very Low to Moderate Risk	Localised stability and drainage network.
T4	Very Low to Moderate Risk	Localised stability and drainage network. Limited data between downstream receptors. Potential for deep pockets of peat but peat depth generally shallow. Max (GDEM) incline = approx. 8 degrees, moderate incline.
T5	Very Low to Low Risk	Localised stability and drainage network.
Met Mast	Very Low to Moderate Risk	Localised stability and drainage network.

Turbine No. / Unit	RR(D) (Ranked Risk considering Distance to Sensitive Receptors)	Geo-Hazard / Comment (Important to consider when carrying out detailed design and preconstruction planning)
Borrow Pit	Very Low to Moderate Risk	Localised stability and drainage network.
Substation	Very Low to Low Risk	Localised stability and drainage network.

4.6 Subsoil Stability Risk Assessment Results

Review of subsoil stability assessment result data and maps as presented in **Appendix I** indicate that the factor of safety is generally acceptable and very low to low stability risk across the site (areas assessed / trial pit locations*) with the exception of minor isolated areas of steeper inclines and deeper till deposits (inferred*).

Summary of risk at the site under varying conditions and scenarios is presented in the following tables.

Table 15: Factor of Safety (Adjusted) at Trial Pit Locations

	Acceptable	Marginally Stable	Unstable
FoS (Adj.) Scenario A	16	0	0
FoS (Adj.) Scenario B	14	2	0

Table 16: Risk Ranking (Distance) at Trial Pit Locations

	Very Low	Low	Moderate	High
RR (Dist.) Scenario A	14	1	1	0
RR (Dist.) Scenario B	13	1	2	0

Based on the inferred conservative values applied to the above stability risk assessment, the factor of safety is highly dependent on cohesive strength, which in turn is highly dependent on hydrogeological characteristics including pore water pressure. **Figure 2** presents potential varying Factors of Safety for subsoils at the Site depending on varying cohesive strength and depths to failure plane.

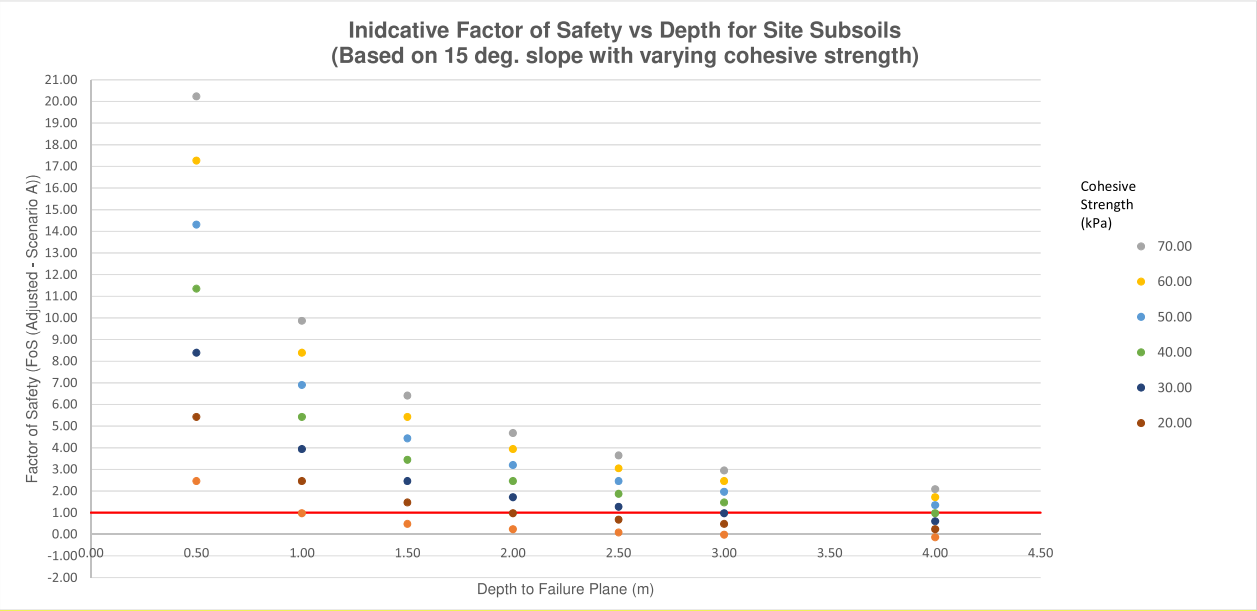

Figure 2: Correlation Between Factor of Safety, Cohesive Strength and Depth of Subsoils

Observations made during site walkovers include deep deposits of till in the northwestern area of the site immediately north of T1. Iron pan was also observed in trial pits in those areas. The area is also extensively modified in terms of constructed drainage for agricultural and forestry purposes.

Areas with potentially deep till deposits, steep incline (c. >15 degrees), potential for iron pan, and enhanced opportunity for recharge to groundwater are considered to have elevated Moderate to High risk in terms of subsoil soil stability.

Areas of elevated stability risk, even at a localised scale, are considered geo-hazards requiring mitigation. Geo-hazards are presented in **Appendix H.**

4.7 Subsoil Stability Risk Assessment Interpretation

The following table presents the interpretation of stability risk assessment data in the context of stability, or factor of safety (FoS) (Adjusted, Scenario B) at each significant development infrastructure unit.

Table 17: Subsoil Stability Risk Assessment – Risk Ranking (Distance) (Scenario B) at Main Infrastructure Units

Turbine No. / Unit	RR_D (Ranked Risk considering Distance to Sensitive Receptors)	Geo-Hazard / Comment
T1	Low	Localised stability and drainage network.
T2	Low to Moderate	Localised stability and proximity to sensitive receptor (river). Minor, localised stability issues have the potential to have significant adverse impacts on receptors.
T3	Low	Localised stability and drainage network.
T4	Low	Localised stability and drainage network.
T5	Low	Localised stability and drainage network.

Turbine No. / Unit	RR_D (Ranked Risk considering Distance to Sensitive Receptors)	Geo-Hazard / Comment
Met Mast	Low	Localised stability and drainage network.
Borrow Pit	Low	Localised stability and drainage network.
Substation	Low	Localised stability and drainage network.

5. Conclusions

Peat Stability

Peat depth across the site is generally very shallow to shallow with the exception of isolated pockets of moderately deep peat delineated by shallow subsoils and/or bedrock at or near the surface, particularly in the NW of the site. There was no very deep peat observed at the site. There is a relatively extensive area of deep peat north of the proposed location for T1 and the associated access track. The footprint of the Project avoids this area.

The Factor of Safety (Adjusted) (Scenario B i.e., 1m surcharge) at peat probe locations is generally Acceptable throughout the Site with occasional Marginal locations and some Unacceptable localities associated with relatively steeper slopes coupled with relative peat depths.

Marginally Stable Locations, presented in yellow in **Plate 7** above, are concentrated around Site Access tracks and do not overlap with any hardstand areas with the exception of proposed location of T3. Unstable/Unacceptable locations, denoted in red in **Plate 7**, are seen adjacent to the Site Access Tacks to the proposed substation location and T1 as well as the proposed hardstand location of T3.

The Risk Ranking (Distance) Scenario B i.e., 1m surcharge) at peat probe locations is generally Very Low to Low with the exception of Moderate to High-risk point locations, outlined in **Plates 1 - 5** above, mainly associated with close proximity to sensitive receptors (e.g., mapped EPA rivers and artificial draining with direct linkage to rivers). The location of these 'Moderate Risk' to 'High Risk' vary throughout the Site. All proposed turbine hardstand areas are located outside of these elevated risk areas, with the exception of three No. points at T3, Site drainage maps highlight the connection of forestry drains to the Sullane_010.

In summary, through the process of mitigation by design, the Development avoids areas where significant peat or slope stability risk is highest. There remains a residual risk of displacement at a localised scale, which is inherent with all construction / excavation activities particularly when dealing with peat. This is of particular importance to consider when working in close proximity to sensitive receptors, for example; working near, over in surface water features, or when designing drainage networks and the positioning of outfalls.

Subsoil Stability

Subsoils underlying the site are characterized generally as clayey sandy GRAVEL or TILL.

The Factor of Safety (Adjusted) (Scenario B i.e., 1m surcharge) at trial pit locations is generally Acceptable with no exception of marginally stable / unstable point locations.

The Risk Ranking (Distance) Scenario B i.e., 1m surcharge) at trial pit locations is generally Very Low to Low with no exceptions of Moderate or High-risk point locations.

Rock Strength

Bedrock is slightly unweathered.

Bedrock strength at the Site is reported as Weak.

Reuse There is a risk that if used for track surfacing, the trafficked material will gradually degrade, potentially leading to chronic siltation of drainage features or dust depending on meteorological conditions. Therefore, bedrock material arising at the Site will be reused as fill material, Site Access Roads and Turbine Hardstands will be surfaced with a harder rock imported to the Site.

Geo-Hazards

A register of Geo-Hazards is mapped and presented in **Appendix H.**

6. Caveats & Recommendations

The risk of landslides occurring on the proposed site under worst case scenario conditions (Conservative values and Scenario B (+1m)) has been determined to be generally **very low to low** however, the following points should be noted;

- The low risk classification is largely driven by shallow peat depths at sampling points associated with proposed infrastructure locations, and by the undulating nature of the substrate topology, however the potential for deeper areas of peat associated with the Project footprint suggests that soil stability at a highly localized scale may give rise to some difficulty e.g. collapse of side walls in excavations, and subsidence over time under newly installed floating hardstands (on peat), etc. Such potential issues give rise to the need for vigilance during and after the construction phase of the Project and it is recommended that all works are supervised and monitored by a competent person (Geotechnical Engineer) through out the construction phase, and that the site is monitored at a reasonable frequency during the operational phase of the proposed development. The frequency of monitoring during the operational phase will be conducted at a high frequency (e.g. weekly) during the initial months, and will reduce (e.g. monthly) gradually over the following year minimum, or until site conditions are observed to be stable.

- The main infrastructure components such as the turbine hardstand areas avoid very sensitive areas of the site. However, a portion of the proposed access track associated with the proposed watercourse crossings are within 50m of a sensitive receptor (Sullane_010). Peat depths at these locations are shallow however some moderately steep (>8 degrees) to steep (>14 degrees) inclines result in some localised unstable peat data (0.5m peat depth inferred). Unstable peat data in the context of proximity to the dowstream receptor (RR(D)) results in a High Risk classification.

- Through EIA, constraint identification and design process, the Project footprint avoids areas of significant unacceptable risk, however this will include all aspects of the Project including; vehicle movements, personell movements, temporary storage, etc. In other words, the Project(including construction activities) will be limited to the Project footprint, and will avoid areas of elevated risk. . Managament of excavation arisings or any bulk material or equipment will consider proximity to these areas or geo-constraints, and developer's or sub-contractors method statement and risk assessments will incorporate this into operational and health and safety mitigation measures.

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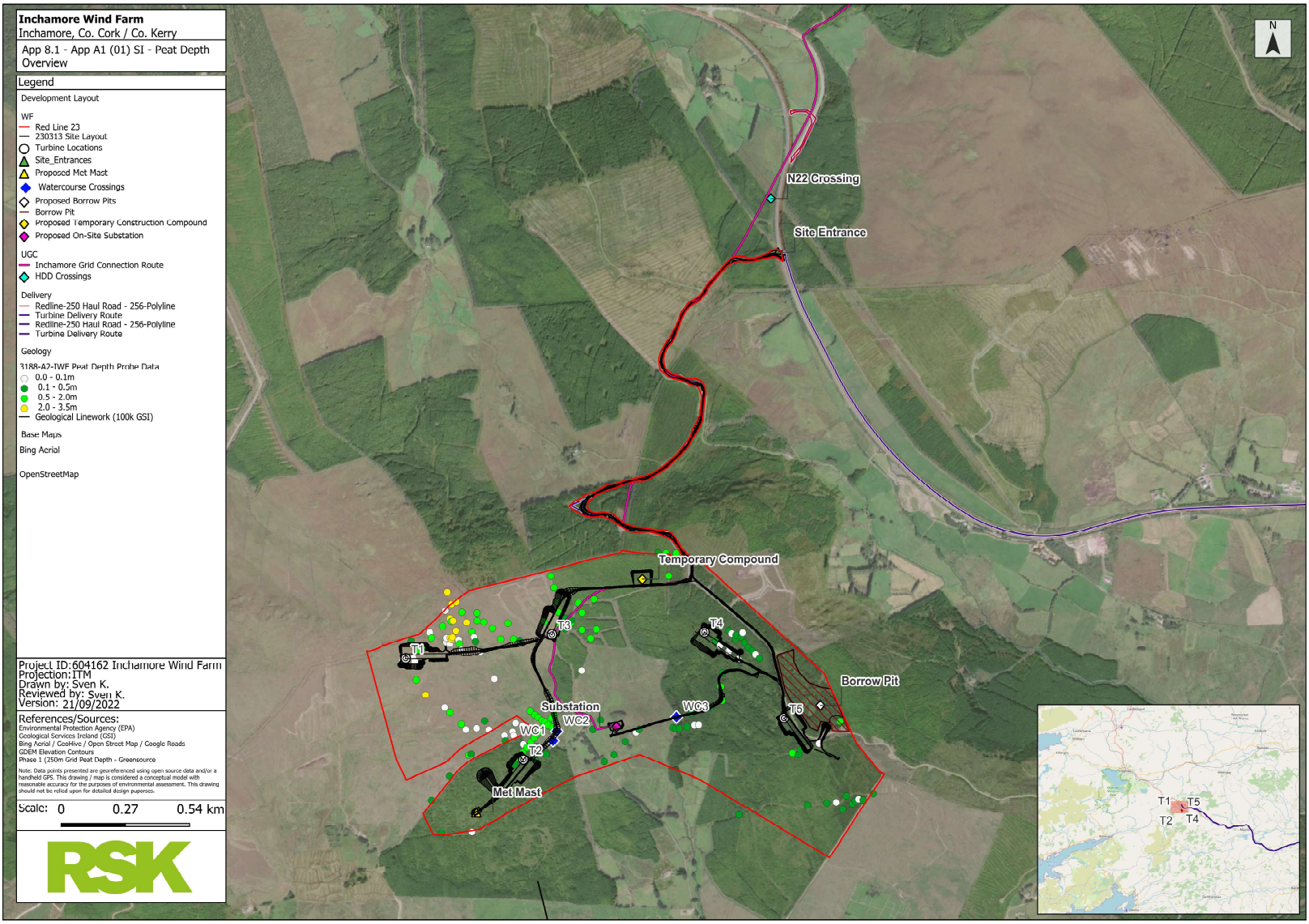
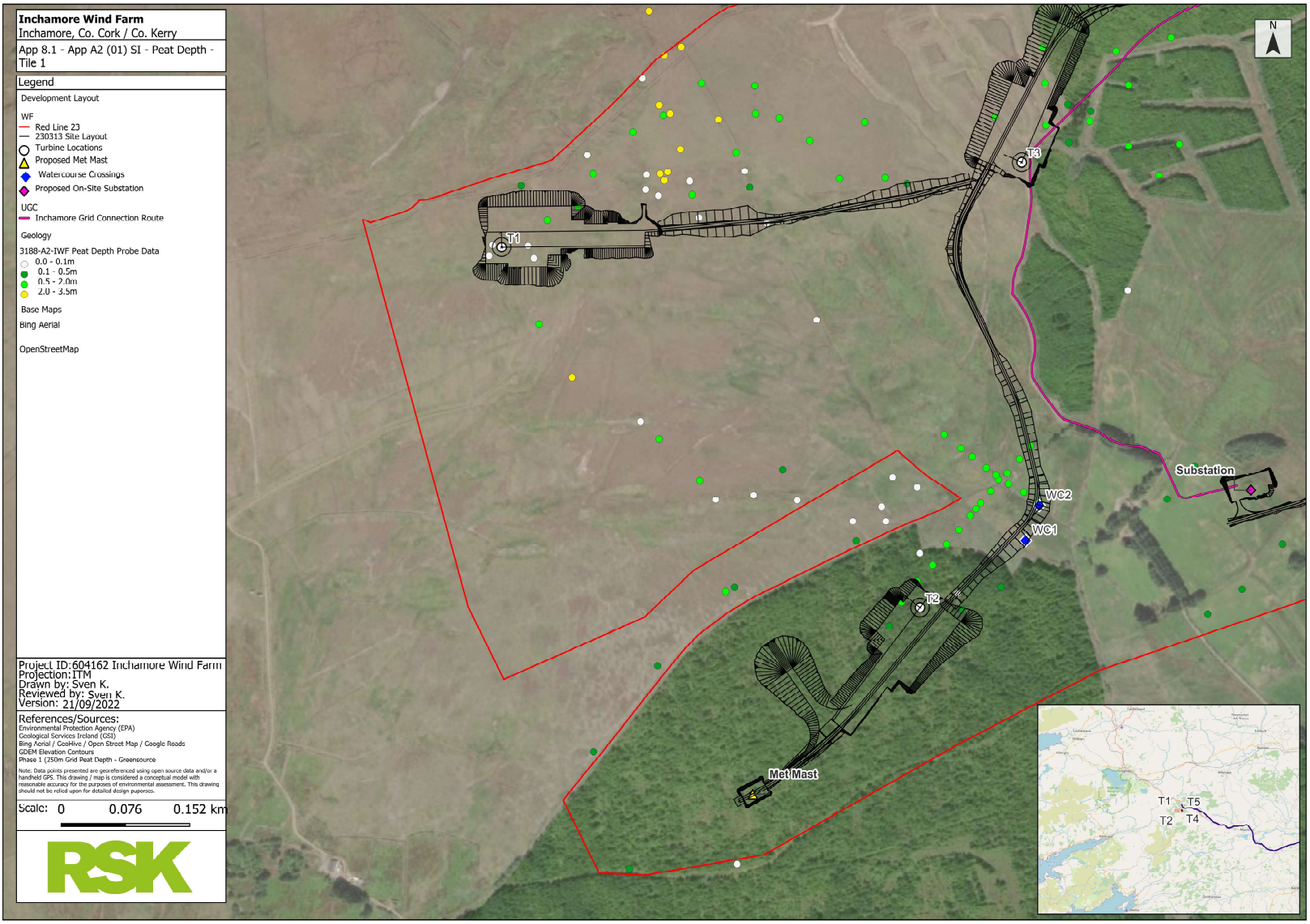
Appendix A


Inchamore Wind Farm
Inchamore, Co. Cork / Co. Kerry
App 8.1 - App A1 (01) SI - Peat Depth Overview
Legend
Development Layout
WF
Red Line 23
230313 Site Layout
Turbine Locations
Site_Entrances
Proposed Met Mast
Watercourse Crossings
Proposed Borrow Pits
Borrow Pit
Proposed Temporary Construction Compound
Proposed On-Site Substation
UGC
Inchamore Grid Connection Route
HDD Crossings
Delivery
Redline-250 Haul Road - 256-Polyline
Turbine Delivery Route
Redline-250 Haul Road - 256-Polyline
Turbine Delivery Route
Geology
3188-A7-IWF Peat Depth Probe Data
0.0 - 0.1m
0.1 - 0.5m
0.5 - 2.0m
2.0 - 3.5m
Geological Linework (100k GSI)
Base Maps
Bing Aerial
OpenStreetMap
Project ID:604162 Inchamore Wind Farm
Projection:ITM
Drawn by: Sven K.
Reviewed by: Sven K.
Version: 21/09/2022
References/Sources:
Environmental Protection Agency (EPA)
Geological Services Ireland (GSI)
Bing Aerial / GeoHive / Open Street Map / Google Roads
GDEM Elevation Contours
Phase 1 (250m Grid Peat Depth - Greensource
Note: Data points presented are georeferenced using open source data and/or a handheld GPS. This drawing / map is considered a conceptual model with reasonable accuracy for the purposes of environmental assessment. This drawing should not be relied upon for detailed design purposes.
Scale: 0 0.27 0.54 km
RSK
N
N22 Crossing
Site Entrance
Temporary Compound
T1
T2
T3
T4
T5
Borrow Pit
Substation
WC1
WC2
WC3
Met Mast


Inchamore Wind Farm
Inchamore, Co. Cork / Co. Kerry
App 8.1 - App A2 (01) SI - Peat Depth - Tile 1
Legend
Development Layout
WF
Red Line 23
230313 Site Layout
Turbine Locations
Proposed Met Mast
Watercourse Crossings
Proposed On-Site Substation
UGC
Inchamore Grid Connection Route
Geology
3188-A2-IWF Peat Depth Probe Data
0.0 - 0.1m
0.1 - 0.5m
0.5 - 2.0m
2.0 - 3.5m
Base Maps
Bing Aerial
OpenStreetMap
Project ID:604162 Inchamore Wind Farm
Projection:ITM
Drawn by: Sven K.
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Version: 21/09/2022
References/Sources:
Environmental Protection Agency (EPA)
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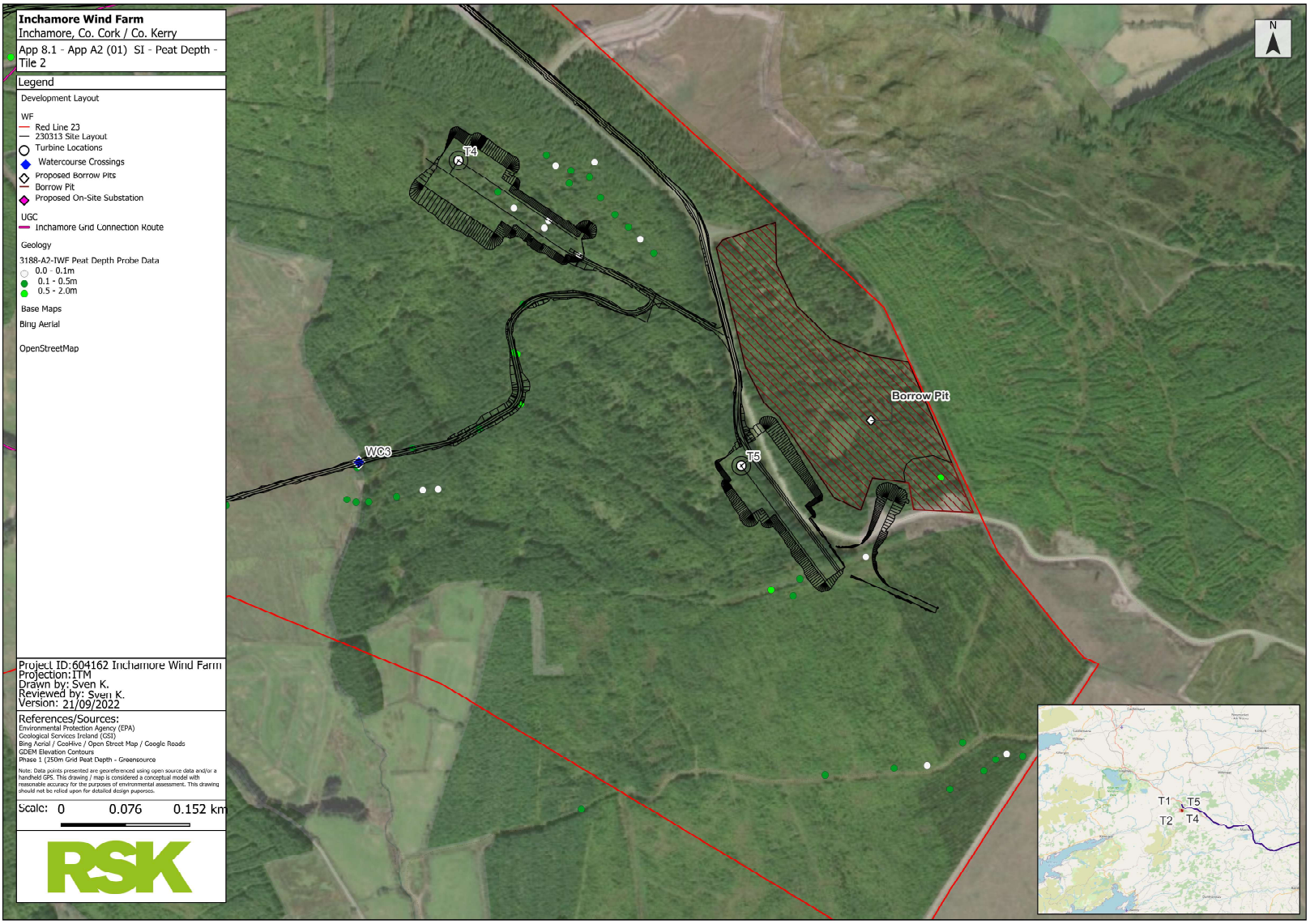
Bing Aerial / GeoHive / Open Street Map / Google Roads
GDEM Elevation Contours
Phase 1 250m Grid Peat Depth - Greensource
Note: Data points presented are georeferenced using open source data and/or a handheld GPS. This drawing / map is considered a conceptual model with reasonable accuracy for the purposes of environmental assessment. This drawing should not be relied upon for detailed design purposes.
Scale: 0 0.076 0.152 km
RSK
N
T1
T2
T3
WC1
WC2
Substation
Met Mast
T1
T2
T4
T5


Inchamore Wind Farm
Inchamore, Co. Cork / Co. Kerry
App 8.1 - App A2 (01) SI - Peat Depth - Tile 2
Legend
Development Layout
WF
Red Line 23
230313 Site Layout
Turbine Locations
Watercourse Crossings
Proposed Borrow Pits
Borrow Pit
Proposed On-Site Substation
UGC
Inchamore Grid Connection Route
Geology
3188-A2-IWF Peat Depth Probe Data
0.0 - 0.1m
0.1 - 0.5m
0.5 - 2.0m
Base Maps
Bing Aerial
OpenStreetMap
Project ID:604162 Inchamore Wind Farm
Projection:ITM
Drawn by: Sven K.
Reviewed by: Sven K.
Version: 21/09/2022
References/Sources:
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Bing Aerial / GeoHive / Open Street Map / Google Roads
GDEM Elevation Contours
Phase 1 250m Grid Peat Depth - Greensource
Note: Data points presented are georeferenced using open source data and/or a handheld GPS. This drawing / map is considered a conceptual model with reasonable accuracy for the purposes of environmental assessment. This drawing should not be relied upon for detailed design purposes.
Scale: 0 0.076 0.152 km
RSK
N
T4
T5
WC3
Borrow Pit
T1
T2
T5
T4

Appendix B

SI Appendix B - Peat & Subsoil Survey Database

Inchamore WF, Co. Cork

Prepared by: SK 07/02/2023
RSK File Ref.: 603679-00.xls

Peat & Slope Stability Risk Assessment

Sample / Test Category	Sample / Test Point ID No.	Association	ITM Easting	ITM Northing	Thickness / Depth of peat	Classification of Thickness / Depth of peat	Slope (Extracted from GDEM)	Note	Slope Angle	Slope Angle (For Excel Formula)	Undrained Shear Strenght (Conservative Value)	Bulk Unit weight of Peat (Conservative Value)	Scenario A: Depth to failure plane i.e. Peat Depth	Scenario B: Surcharge Equivalent Placed Fill Depth i.e. +1m	Scenario A: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	FoS Adjustment Coefficient	FoS Adjustment Value	Scenario A: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Significant Feature Ranking Cefficient	Scenario A: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Scenario B: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Distance to Sensitive Receptor	Distance to Sensitive Receptor Coefficient	Scenario A: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category	Scenario B: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category
									α	α	c'	y	z	z	$FoS = \frac{c_u}{\gamma z \sin\alpha \cos\alpha}$						$FoS = \frac{c_u}{\gamma z \sin\alpha \cos\alpha}$ + Adjustment Value				μ_{SF}					$\mu_{Dist.}$				
					m		Degrees		Degrees	Radians	kPa	kN/m3	m	m	FoS	μ	FoS	μ	μ	#	FoS	μ	FoS	μ	μ	RR-SF	μ	RR-SF	μ	m	μ	RR-D		RR-D	
Depth Probe	DP001	T1	512342.945	578929.888	0.1	B - Very Shallow (0.01-0.5m)	5.76569		5.76569	0.10063	3.5	11	0.10	1.10	31.83	1.0	2.89	1.0	2.0	0.0	31.83	1.0	2.89	1.0	2.0	2.0	1.0	2.0	1.0	420.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP002	T1	512346.945	578942.885	0.1	B - Very Shallow (0.01-0.5m)	5.76569		5.76569	0.10063	3.5	11	0.10	1.10	31.83	1.0	2.89	1.0	2.0	0.0	31.83	1.0	2.89	1.0	2.0	2.0	1.0	2.0	1.0	419.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP003	T1	512380.938	579012.87	0.2	B - Very Shallow (0.01-0.5m)	2.54332		2.54332	0.044389	3.5	11	0.20	1.20	35.89	1.0	5.98	1.0	2.0	0.0	35.89	1.0	5.98	1.0	2.0	2.0	1.0	2.0	1.0	414.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP004	T1	512388.935	578941.885	0.1	B - Very Shallow (0.01-0.5m)	5.89515		5.89515	0.10289	3.5	11	0.10	1.10	31.14	1.0	2.83	1.0	2.0	0.0	31.14	1.0	2.83	1.0	2.0	2.0	1.0	2.0	1.0	379.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP005	T1	512395.934	578926.888	0.1	B - Very Shallow (0.01-0.5m)	10.09382	Rocky outcrop east west steap incline	10.09382	0.17617	3.5	11	0.10	1.10	18.44	1.0	1.68	1.0	2.0	0.0	18.44	1.0	1.68	1.0	2.0	2.0	1.0	2.0	1.0	368.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP006	T1	512401.932	578848.905	0.7	C - Shallow (0.5-2.0m)	6.0615	Cut peat. Photo 11 50	6.0615	0.105793	3.5	11	0.70	1.70	4.33	1.0	1.78	1.0	2.0	0.0	4.33	1.0	1.78	1.0	2.0	2.0	1.0	2.0	1.0	348.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP007	T1	512411.931	578971.879	0.6	C - Shallow (0.5-2.0m)	2.61166		2.61166	0.045582	3.5	11	0.60	1.60	11.65	1.0	4.37	1.0	2.0	0.0	11.65	1.0	4.37	1.0	2.0	2.0	1.0	2.0	1.0	368.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP008	T1	512440.923	578785.918	2.1	D - Moderately Deep (2.0-3.5m)	4.97205		4.97205	0.086779	3.5	11	2.10	3.10	1.75	1.0	1.19	2.0	2.0	0.0	1.75	1.0	1.19	2.0	2.0	2.0	1.0	4.0	2.0	311.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP009	T1	512447.923	578987.875	1	C - Shallow (0.5-2.0m)	3.12206		3.12206	0.05449	3.5	11	1.00	2.00	5.85	1.0	2.93	1.0	2.0	0.0	5.85	1.0	2.93	1.0	2.0	2.0	1.0	2.0	1.0	343.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP010	T1	512458.921	579048.862	0.0001	A - Rock (0.0m)	0.87893	Rock	0.87893	0.01534	3.5	11	0.00	1.00	207449.24	1.0	20.74	1.0	2.0	0.0	207449.24	1.0	20.74	1.0	2.0	2.0	1.0	2.0	1.0	367.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP011	T1	512465.919	579026.866	1.2	C - Shallow (0.5-2.0m)	0.87893	Rocky adjacent	0.87893	0.01534	3.5	11	1.20	2.20	17.29	1.0	9.43	1.0	2.0	0.0	17.29	1.0	9.43	1.0	2.0	2.0	1.0	2.0	1.0	348.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP012	SITE	512466.462	578343.336	0.2	B - Very Shallow (0.01-0.5m)	6.63083		6.63083	0.11573	3.5	11	0.20	1.20	13.87	1.0	2.31	1.0	2.0	0.0	13.87	1.0	2.31	1.0	2.0	2.0	1.0	2.0	1.0	507.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP013	SITE	512508.746	578204.739	0.4	B - Very Shallow (0.01-0.5m)	8.10263		8.10263	0.141418	3.5	11	0.40	1.40	5.70	1.0	1.63	1.0	2.0	0.0	5.70	1.0	1.63	1.0	2.0	2.0	1.0	2.0	1.0	518.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP014	T1	512513	579076	1.1	C - Shallow (0.5-2.0m)	2.52049		2.52049	0.043991	3.5	11	1.10	2.10	6.58	1.0	3.45	1.0	2.0	0.0	6.58	1.0	3.45	1.0	2.0	2.0	1.0	2.0	1.0	345.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP015	T1	512521.906	578733.929	0.0001	A - Rock (0.0m)	6.05489	Rock	6.05489	0.105678	3.5	11	0.00	1.00	30334.02	1.0	3.03	1.0	2.0	0.0	30334.02	1.0	3.03	1.0	2.0	2.0	1.0	2.0	1.0	245.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP016	T1	512524	579140	0.0001	A - Rock (0.0m)	2.08887	Rock	2.08887	0.036458	3.5	11	0.00	1.00	87351.72	1.0	8.73	1.0	2.0	0.0	87351.72	1.0	8.73	1.0	2.0	2.0	1.0	2.0	1.0	387.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP017	T1	512528	579008	0.0001	A - Rock (0.0m)	4.37171	Rock	4.37171	0.076301	3.5	11	0.00	1.00	41863.31	1.0	4.19	1.0	2.0	0.0	41863.31	1.0	4.19	1.0	2.0	2.0	1.0	2.0	1.0	287.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP018	T1	512529	579026	0.0001	A - Rock (0.0m)	3.27531	Rock	3.27531	0.057165	3.5	11	0.00	1.00	55781.75	1.0	5.58	1.0	2.0	0.0	55781.75	1.0	5.58	1.0	2.0	2.0	1.0	2.0	1.0	298.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP019	T1	512532	579219	2.1	D - Moderately Deep (2.0-3.5m)	4.90234		4.90234	0.085562	3.5	11	2.10	3.10	1.78	1.0	1.21	2.0	2.0	0.0	1.78	1.0	1.21	2.0	2.0	2.0	1.0	4.0	2.0	450.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP020	SITE	512542.156	578444.87	0.5	B - Very Shallow (0.01-0.5m)	10.08572		10.08572	0.176029	3.5	11	0.50	1.50	3.69	1.0	1.23	2.0	2.0	0.0	3.69	1.0	1.23	2.0	2.0	2.0	1.0	4.0	2.0	383.4	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP021	T1	512543	579001	0.0001	A - Rock (0.0m)	3.35734	Rock	3.35734	0.058597	3.5	11	0.00	1.00	54424.85	1.0	5.44	1.0	2.0	0.0	54424.85	1.0	5.44	1.0	2.0	2.0	1.0	2.0	1.0	271.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP022	SITE	512543.901	578712.934	1.4	C - Shallow (0.5-2.0m)	3.67259	Rocky adjacent	3.67259	0.064099	3.5	11	1.40	2.40	3.56	1.0	2.07	1.0	2.0	0.0	3.56	1.0	2.07	1.0	2.0	2.0	1.0	2.0	1.0	234.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP023	T1	512544	579108	2.6	D - Moderately Deep (2.0-3.5m)	2.00689		2.00689	0.035027	3.5	11	2.60	3.60	3.50	1.0	2.53	1.0	2.0	0.0	3.50	1.0	2.53	1.0	2.0	2.0	1.0	2.0	1.0	350.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP024	T1	512545	579027	2.8	D - Moderately Deep (2.0-3.5m)	2.39487		2.39487	0.041798	3.5	11	2.80	3.80	2.72	1.0	2.01	1.0	2.0	0.0	2.72	1.0	2.01	1.0	2.0	2.0	1.0	2.0	1.0	287.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP025	T1	512548.902	579095.851	1.5	C - Shallow (0.5-2.0m)	2.00689	Rocky adjacent.photo	2.00689	0.035027	3.5	11	1.50	2.50	6.06	1.0	3.64	1.0	2.0	0.0	6.06	1.0	3.64	1.0	2.0	2.0	1.0	2.0	1.0	337.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP026	T1	512550	579167	2.5	D - Moderately Deep (2.0-3.5m)	1.48867		1.48867	0.025982	3.5	11	2.50	3.50	4.90	1.0	3.50	1.0	2.0	0.0	4.90	1.0	3.50	1.0	2.0	2.0	1.0	2.0	1.0	396.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP027	T1	512550	579019	2.2	D - Moderately Deep (2.0-3.5m)	3.35734		3.35734	0.058597	3.5	11	2.20	3.20	2.47	1.0	1.70	1.0	2.0	0.0	2.47	1.0	1.70	1.0	2.0	2.0	1.0	2.0	1.0	278.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP028	T1	512554	579029	3	D - Moderately Deep (2.0-3.5m)	2.39487		2.39487	0.041798	3.5	11	3.00	4.00	2.54	1.0	1.91	1.0	2.0	0.0	2.54	1.0	1.91	1.0	2.0	2.0	1.0	2.0	1.0	282.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP029	T1	512556.9	579097.851	2.5	D - Moderately Deep (2.0-3.5m)	2.00689	Rocky adjacent.photo	2.00689	0.035027	3.5	11	2.50	3.50	3.64	1.0	2.60	1.0	2.0	0.0	3.64	1.0	2.60	1.0	2.0	2.0	1.0	2.0	1.0	334.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP030	T1	512569	579056	3	D - Moderately Deep (2.0-3.5m)	4.10768		4.10768	0.071693	3.5	11	3.00	4.00	1.48	1.0	1.11	2.0	2.0	0.0	1.48	1.0	1.11	2.0	2.0	2.0	1.0	4.0	2.0	293.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP031	T1	512570	579177	2.1	D - Moderately Deep (2.0-3.5m)	1.88168		1.88168	0.032842	3.5	11	2.10	3.10	4.62	1.0	3.13	1.0	2.0	0.0	4.62	1.0	3.13	1.0	2.0	2.0	1.0	2.0	1.0	395.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP032	T1	512580	579018	0.1	B - Very Shallow (0.01-0.5m)	7.22121		7.22121	0.126034	3.5	11	0.10	1.10	25.52	1.0	2.32	1.0	2.0	0.0	25.52	1.0	2.32	1.0	2.0	2.0	1.0	2.0	1.0	257.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP033	T1	512583	579002	1.1	C - Shallow (0.5-2.0m)	7.22121		7.22121	0.126034	3.5	11	1.10	2.10	2.32	1.0	1.22	2.0	2.0	0.0	2.32	1.0	1.22	2.0	2.0	2.0	1.0	4.0	2.0	243.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP034	T1	512591	578975	0.0001	A - Rock (0.0m)	6.88087	Rocky adjacent	6.88087	0.120094	3.5	11	0.00	1.00	26750.90	1.0	2.67	1.0	2.0	0.0	26750.90	1.0	2.67	1.0	2.0	2.0	1.0	2.0	1.0	218.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP035	SITE	512591.89	578663.944	1.2	C - Shallow (0.5-2.0m)	5.14745	Rocky adjacent	5.14745	0.08984	3.5	11	1.20	2.20	2.97	1.0	1.62	1.0	2.0	0.0	2.97	1.0	1.62	1.0	2.0	2.0	1.0	2.0	1.0	218.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP036	T1	512594	579134	1.1	C - Shallow (0.5-2.0m)	1.44436		1.44436	0.025209	3.5	11	1.10	2.10	11.48	1.0	6.01	1.0	2.0	0.0	11.48	1.0	6.01	1.0	2.0	2.0	1.0	2.0	1.0	346.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP037	SITE	512610.753	578641.295	0.0001	A - Rock (0.0m)	7.67632		7.67632	0.133977	3.5	11	0.00	1.00	24035.57	1.0	2.40	1.0	2.0	0.0	24035.57	1.0	2.40	1.0	2.0	2.0	1.0	2.0	1.0	213.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP038	T1	512614	579091	2.5	D - Moderately Deep (2.0-3.5m)	4.16378		4.16378	0.072672	3.5	11	2.50	3.50	1.76	1.0	1.26	2.0	2.0	0.0	1.76	1.0	1.26	2.0	2.0	2.0	1.0	4.0	2.0	298.8	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP039	SITE	512622.547	578532.831	0.8	C - Shallow (0.5-2.0m)	8.54745		8.54745	0.149181	3.5	11	0.80	1.80	2.71	1.0	1.20	2.0	2.0	0.0	2.71	1.0	1.20	2.0	2.0	2.0	1.0	4.0	2.0	265.2	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP040	SITE	512632.988	578538.051	0.2	B - Very Shallow (0.01-0.5m)	9.23341		9.23341	0.161153	3.5	11	0.20	1.20	10.05	1.0	1.67	1.0	2.0	0.0	10.05	1.0	1.67	1.0	2.0	2.0	1.0	2.0	1.0	253.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP041	T1	512635	579052	2	C - Shallow (0.5-2.0m)	3.50355		3.50355	0.061148	3.5	11	2.00	3.00	2.61	1.0	1.74	1.0	2.0	0.0	2.61	1.0	1.74	1.0	2.0	2.0	1.0	2.0	1.0	254.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP042	SITE	512636.019	578210.109	0.1	B - Very Shallow (0.01-0.5m)	9.20516		9.20516	0.16066	3.5	11	0.10	1.10	20.15	1.0	1.83	1.0	2.0	0.0	20.15	1.0	1.83	1.0	2.0	2.0	1.0	2.0	1.0	479.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP043	T1	512645	579030	0.0001	A - Rock (0.0m)	4.87526	Rock	4.87526	0.085089	3.5	11	0.00	1.00	37574.96	1.0	3.76	1.0	2.0	0.0	37574.96	1.0	3.76	1.0	2.0	2.0	1.0	2.0	1.0	230.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP044	T1	512651	579011	0.2	B - Very Shallow (0.01-0.5m)	5.95167		5.95167	0.103876	3.5	11	0.20	1.20	15.43	1.0	2.57	1.0	2.0	0.0	15.43	1.0	2.57	1.0	2.0	2.0	1.0	2.0	1.0	210.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP045	SITE	512655.487	578646.68	0.0001	A - Rock (0.0m)	7.72005	Rock	7.72005	0.13474	3.5	11	0.00	1.00	23902.71	1.0	2.39	1.0	2.0	0.0	23902.71	1.0	2.39	1.0	2.0	2.0	1.0	2.0	1.0	173.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP046	T1	512657	579131	1.4	C - Shallow (0.5-2.0m)	4.51586		4.51586	0.078817	3.5	11	1.40	2.40	2.90	1.0	1.69	1.0	2.0	0.0	2.90	1.0	1.69	1.0	2.0	2.0	1.0	2.0	1.0	315.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP047	T1	512657	579131	1.1	C - Shallow (0.5-2.0m)	4.51586		4.51586	0.078817	3.5	11	1.100	2.10	3.69	1.0	1.93	1.0	2.0	0.0	3.69	1.0	1.93	1.0	2.0	2.0	1.0	2.0	1.0	315.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP048	T1	512657.878	579097.85	1.2	C - Shallow (0.5-2.0m)	4.63283		4.63283	0.080858	3.5	11	1.20	2.20	3.29	1.0	1.80	1.0	2.0	0.0	3.29	1.0	1.80	1.0	2.0	2.0	1.0	2.0	1.0	287.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP049	T1	512671	578968	0.0001	A - Rock (0.0m)	8.54413	Rock	8.54413	0.149123	3.5	11	0.00	1.00	21656.48	1.0	2.17	1.0	2.0	0.0	21656.48	1.0	2.17	1.0	2.0	2.0	1.0	2.0	1.0	163.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP050	SITE	512686	579093	1	C - Shallow (0.5-2.0m)	6.01069		6.01069	0.104906	3.5	11	1.00	2.00	3.06	1.0	1.53	1.0	2.0	0.0	3.06	1.0	1.53	1.0	2.0	2.0	1.0	2.0	1.0	267.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP051	T2	512689.869	578676.941	0.3	B - Very Shallow (0.01-0.5m)	9.62354	Rocky adjacent	9.62354	0.167962	3.5	11	0.30	1.30	6.43	1.0	1.48	1.0	2.0	0.0	6.43	1.0	1.48	1.0	2.0	2.0	1.0	2.0	1.0	127.5	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP052	T2	512707.055	578640.467	0.0001	A - Rock (0.0m)	8.58034		8.58034	0.149755	3.5	11	0.00	1.00	21567.82	1.0	2.16	1.0	2.0	0.0	21567.82	1.0	2.16	1.0	2.0	2.0	1.0	2.0	1.0	133.1	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP053	SITE	512722	579066	0.95	C - Shallow (0.5-2.0m)	6.02249		6.02249	0.105112	3.5	11	0.95	1.95	3.21	1.0	1.56	1.0	2.0	0.0	3.21	1.0	1.56	1.0	2.0	2.0	1.0	2.0	1.0	226.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP054	SITE	512730	578854	0.1	B - Very Shallow (0.01-0.5m)	8.59535		8.59535	0.150017	3.5	11	0.10	1.10	21.53	1.0	1.96	1.0	2.0	0.0	21.53	1.0	1.96	1.0	2.0	2.0	1.0	2.0	1.0	35.2	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP055	SITE	512757	579021	1.1	C - Shallow (0.5-2.0m)	10.02816		10.02816	0.175024	3.5	11	1.10	2.10	1.69	1.0	0.88	4.0	2.0	0.0	1.69	1.0	0.88	4.0	2.0	2.0	1.0	8.0	4.0	170.6	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP056	T2	512772.851	578615.953	0.0001	A - Rock (0.0m)	9.15998	Rock	9.15998	0.159872	3.5	11	0.00	1.00	20245.52	1.0	2.02	1.0	2.0	0.0	20245.52	1.0	2.02	1.0	2.0	2.0	1.0	2.0	1.0	98.0	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP057	T2	512776.85	578592.958	0.2	B - Very Shallow (0.01-0.5m)	9.60824		9.60824	0.167695	3.5	11	0.20	1.20	9.67	1.0	1.61	1.0	2.0	0.0	9.67	1.0	1.61	1.0	2.0	2.0	1.0	2.0	1.0	112.8	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP058	T3	512786.851	579087.851	0.9	C - Shallow (0.5-2.0m)	8.27299		8.27299	0.144391	3.5	11	0.90	1.90	2.48	1.0	1.18	2.0	2.0	0.0	2.48	1.0	1.18	2.0	2.0	2.0	1.0	4.0	2.0	225.7	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP059	T2	512806.844	578632.949	0.1	B - Very Shallow (0.01-0.5m)	10.32984	Rocky adjacent	10.32984	0.18029	3.5	11	0.10	1.10	18.04	1.0	1.64	1.0	2.0	0.0	18.04	1.0	1.64	1.0	2.0	2.0	1.0	2.0	1.0	62.8	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP060	T3	512811	579022	1	C - Shallow (0.5-2.0m)	12.51684		12.51684	0.21846	3.5	11	1.00	2.00	1.50	1.0	0.75	4.0	2.0	0.0	1.50	1.0	0.75	4.0	2.0	2.0	1.0	8.0	4.0	157.0	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP061	T2	512811.843	578615.953	0.1	B - Very Shallow (0.01-0.5m)	10.19738	Rocky adjacent	10.19738	0.177978	3.5	11	0.10	1.10	18.26	1.0	1.66	1.0	2.0	0.0	18.26	1.0	1.66	1.0	2.0	2.0	1.0	2.0	1.0	74.2	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP062	T2	512815.991	578491.767	0.2	B - Very Shallow (0.01-0.5m)	11.45979		11.45979	0.200011	3.5	11	0.20	1.20	8.17	1.0	1.36	1.0	2.0	0.0	8.17	1.0	1.36	1.0	2.0	2.0	1.0	2.0	1.0	174.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP063	T2	512819.841	578667.942	0.1	B - Very Shallow (0.01-0.5m)	8.95796	Rocky adjacent	8.95796	0.156346	3.5	11	0.10	1.10	20.69	1.0	1.88	1.0	2.0	0.0	20.69	1.0	1.88	1.0	2.0	2.0	1.0	2.0	1.0	28.1	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP064	T3	512837	579015	0.4	B - Very Shallow (0.01-0.5m)	10.70068	Deeply erdoed drain	10.70068	0.186762	3.5	11	0.40	1.40	4.36	1.0	1.25	2.0	2.0	0.0	4.36	1.0	1.25	2.0	2.0	2.0	1.0	4.0	2.0	149.3	2.0	2.0	B - Low Risk	4.0	C - Moderate Risk
Depth Probe	DP065	T2	512848.835	578655.944	0.1	B - Very Shallow (0.01-0.5m)	7.50129	Rocky adjacent	7.50129	0.130922	3.5	11	0.10	1.10	24.58	1.0	2.23	1.0	2.0	0.0	24.58	1.0	2.23	1.0	2.0	2.0	1.0	2.0	1.0	20.2	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP066	T2	512852	578578	0.1	B - Very Shallow (0.01-0.5m)	7.07017		7.07017	0.123398	3.5	11	0.10	1.10	26.05	1.0	2.37	1.0	2.0	0.0	26.05	1.0	2.37	1.0	2.0	2.0	1.0	2.0	1.0	83.5	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP067	T2	512896.554	578530.495	0.0001	A - Rock (0.0m)	8.89802	Rocky	8.89802	0.1553	3.5	11	0.00	1.00	20821.41	1.0	2.08	1.0	2.0	0.0	20821.41	1.0	2.08	1.0	2.0	2.0	1.0	2.0	1.0	92.0	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP068	T2	512902.145	578511.339	0.3	B - Very Shallow (0.01-0.5m)	8.89802		8.89802	0.1553	3.5	11	0.30	1.30	6.94	1.0	1.60	1.0	2.0	0.0	6.94	1.0	1.60	1.0	2.0	2.0	1.0	2.0	1.0	104.3	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP069	T3	512940.817	579093.849	0.9	C - Shallow (0.5-2.0m)	9.24406	Cut peat photo	9.24406	0.161339	3.5	11	0.900	1.90	2.23	1.0	1.06	2.0	2.0	0.0	2.23	1.0	1.06	2.0	2.0	2.0	1.0	4.0	2.0	254.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP070	T2	512948	578538	0.5	B - Very Shallow (0.01-0.5m)	11.33164		11.33164	0.197774	3.5	11	0.50	1.50	3.30	1.0	1.10	2.0	2.0	0.0	3.30	1.0	1.10	2.0	2.0	2.0	1.0	4.0	2.0	60.0	2.0	2.0	B - Low Risk	4.0	C - Moderate Risk
Depth Probe	DP071	T3	512967	579286	0.0001	A - Rock (0.0m)	4.87812	Cut peat	4.87812	0.085139	3.5	11	0.00	1.00	37553.14	1.0	3.75	1.0	2.0	0.0	37553.14	1.0	3.75	1.0	2.0	2.0	1.0	2.0	1.0	442.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP072	T3	512968	579286	0.6	C - Shallow (0.5-2.0m)	4.87812	Uncut peat	4.87812	0.085139	3.5	11	0.60	1.60	6.26	1.0	2.35	1.0	2.0	0.0	6.26	1.0	2.35	1.0	2.0	2.0	1.0	2.0	1.0	442.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP073	T3	512980	579238	0.0001	A - Rock (0.0m)	6.08375	Cut peat	6.08375	0.106181	3.5	11	0.00	1.00	30192.28	1.0	3.02	1.0	2.0	0.0	30192.28	1.0	3.02	1.0	2.0	2.0	1.0	2.0	1.0	401.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP074	T3	512981	579239	0.6	C - Shallow (0.5-2.0m)	6.08375	Uncut peat	6.08375	0.106181	3.5	11	0.60	1.60	5.03	1.0	1.89	1.0	2.0	0.0	5.03	1.0	1.89	1.0	2.0	2.0	1.0	2.0	1.0	403.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP075	T3	512996	579176	0.1	B - Very Shallow (0.01-0.5m)	8.00388	Cut peat	8.00388	0.139694	3.5	11	0.10	1.10	23.08	1.0	2.10	1.0	2.0	0.0	23.08	1.0	2.10	1.0	2.0	2.0	1.0	2.0	1.0	352.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP076	T3	512997	579176	1.5	C - Shallow (0.5-2.0m)	8.00388	Uncut peat	8.00388	0.139694	3.5	11	1.50	2.50	1.54	1.0	0.92	4.0	2.0	0.0	1.54	1.0	0.92	4.0	2.0	2.0	1.0	8.0	4.0	353.1	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP077	T3	513000	579133	0.1	B - Very Shallow (0.01-0.5m)	7.86543		7.86543	0.137278	3.5	11	0.10	1.10	23.47	1.0	2.13	1.0	2.0	0.0	23.47	1.0	2.13	1.0	2.0	2.0	1.0	2.0	1.0	317.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP078	T3	513000	579134	1.1	C - Shallow (0.5-2.0m)	7.86543	Uncut peat, inferred.	7.86543	0.137278	3.5	11	1.10	2.10	2.13	1.0	1.12	2.0	2.0	0.0	2.13	1.0	1.12	2.0	2.0	2.0	1.0	4.0	2.0	318.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP079	T3	513001	579084	1.1	C - Shallow (0.5-2.0m)	10.71365	Cut peat on till	10.71365	0.186988	3.5	11	1.10	2.10	1.58	1.0	0.83	4.0	2.0	0.0	1.58	1.0	0.83	4.0	2.0	2.0	1.0	8.0	4.0	278.3	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP080	T3	513026.799	579108.846	0.4	B - Very Shallow (0.01-0.5m)	10.70989	Cut peat photo	10.70989	0.186923	3.5	11	0.40	1.40	4.36	1.0	1.24	2.0	2.0	0.0	4.36	1.0	1.24	2.0	2.0	2.0	1.0	4.0	2.0	313.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP081	T3	513028	579064	0.2	B - Very Shallow (0.01-0.5m)	10.73867	Top of steep slope	10.73867	0.187425	3.5	11	0.20	1.20	8.69	1.0	1.45	1.0	2.0	0.0	8.69	1.0	1.45	1.0	2.0	2.0	1.0	2.0	1.0	276.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP082	T3	513052.793	579088.85	1	C - Shallow (0.5-2.0m)	11.97277		11.97277	0.208964	3.5	11	1.00	2.00	1.57	1.0	0.78	4.0	2.0	0.0	1.57	1.0	0.78	4.0	2.0	2.0	1.0	8.0	4.0	310.5	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP083	T3	513054	579101	0.5	B - Very Shallow (0.01-0.5m)	11.97277	Up out of drain	11.97277	0.208964	3.5	11	0.50	1.50	3.14	1.0	1.05	2.0	2.0	0.0	3.14	1.0	1.05	2.0	2.0	2.0	1.0	4.0	2.0	321.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP084	T3	513084	579172	1.3	C - Shallow (0.5-2.0m)	5.33154		5.33154	0.093053	3.5	11	1.30	2.30	2.65	1.0	1.50	1.0	2.0	0.0	2.65	1.0	1.50	1.0	2.0	2.0	1.0	2.0	1.0	383.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP085	T3	513097.782	578888.893	0.1	B - Very Shallow (0.01-0.5m)	10.52563		10.52563	0.183707	3.5	11	0.10	1.10	17.72	1.0	1.61	1.0	2.0	0.0	17.72	1.0	1.61	1.0	2.0	2.0	1.0	2.0	1.0	201.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP086	T3	513098.783	579059.856	0.8	C - Shallow (0.5-2.0m)	7.92501		7.92501	0.138318	3.5	11	0.80	1.80	2.91	1.0	1.29	2.0	2.0	0.0	2.91	1.0	1.29	2.0	2.0	2.0	1.0	4.0	2.0	317.2	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP087	T3	513098.783	579059.856	1.8	C - Shallow (0.5-2.0m)	7.92501		7.92501	0.138318	3.5	11	1.80	2.80	1.29	2.0	0.83	4.0	2.0	0.0	1.29	2.0	0.83	4.0	2.0	4.0	2.0	8.0	4.0	317.2	1.0	2.0	B - Low Risk	4.0	C - Moderate Risk
Depth Probe	DP088	T3	513098.784	579131.84	0.8	C - Shallow (0.5-2.0m)	9.83355		9.83355	0.171628	3.5	11	0.80	1.80	2.36	1.0	1.05	2.0	2.0	0.0	2.36	1.0	1.05	2.0	2.0	2.0	1.0	4.0	2.0	363.1	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP089	T3	513134.775	579024.863	1.1	C - Shallow (0.5-2.0m)	8.46323		8.46323	0.147711	3.5	11	1.10	2.10	1.99	1.0	1.04	2.0	2.0	0.0	1.99	1.0	1.04	2.0	2.0	2.0	1.0	4.0	2.0	318.4	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP090	SITE	513144.309	578641.933	0.2	B - Very Shallow (0.01-0.5m)	7.68494	INFERRED, RECENT PLANTING WORK	7.68494	0.134128	3.5	11	0.20	1.20	12.00	1.0	2.00	1.0	2.0	0.0	12.00	1.0	2.00	1.0	2.0	2.0	1.0	2.0	1.0	121.5	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP091	T3	513149	579188	0.9	C - Shallow (0.5-2.0m)	7.11033		7.11033	0.124099	3.5	11	0.90	1.90	2.88	1.0	1.36	1.0	2.0	0.0	2.88	1.0	1.36	1.0	2.0	2.0	1.0	2.0	1.0	323.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP092	T3	513158.77	579061.855	1.1	C - Shallow (0.5-2.0m)	6.03585		6.03585	0.105345	3.5	11	1.10	2.10	2.77	1.0	1.45	1.0	2.0	0.0	2.77	1.0	1.45	1.0	2.0	2.0	1.0	2.0	1.0	303.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP093	SITE	513176.936	578680.824	0.2	B - Very Shallow (0.01-0.5m)	7.32049	INFERRED, RECENT PLANTING	7.32049	0.127767	3.5	11	0.20	1.20	12.59	1.0	2.10	1.0	2.0	0.0	12.59	1.0	2.10	1.0	2.0	2.0	1.0	2.0	1.0	165.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP094	SITE	513192.295	578506.057	0.2	B - Very Shallow (0.01-0.5m)	5.82346	INFERRED, VISIBLE	5.82346	0.101639	3.5	11	0.20	1.20	15.76	1.0	2.63	1.0	2.0	0.0	15.76	1.0	2.63	1.0	2.0	2.0	1.0	2.0	1.0	135.8	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP095	SITE	513232.887	578535.466	0.2	B - Very Shallow (0.01-0.5m)	3.90552	INFERRED, VISIBLE	3.90552	0.068164	3.5	11	0.20	1.20	23.41	1.0	3.90	1.0	2.0	0.0	23.41	1.0	3.90	1.0	2.0	2.0	1.0	2.0	1.0	182.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP096	SITE	513280.697	578588.869	0.15	B - Very Shallow (0.01-0.5m)	7.87911		7.87911	0.137516	3.5	11	0.15	1.15	15.62	1.0	2.04	1.0	2.0	0.0	15.62	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	185.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP097	SITE	513325.691	578628.638	0.1	B - Very Shallow (0.01-0.5m)	4.13463		4.13463	0.072163	3.5	11	0.10	1.10	44.25	1.0	4.02	1.0	2.0	0.0	44.25	1.0	4.02	1.0	2.0	2.0	1.0	2.0	1.0	152.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP098	SITE	513338.509	578641.916	0.2	B - Very Shallow (0.01-0.5m)	4.13463	INFERRED, VISIBLE	4.13463	0.072163	3.5	11	0.20	1.20	22.12	1.0	3.69	1.0	2.0	0.0	22.12	1.0	3.69	1.0	2.0	2.0	1.0	2.0	1.0	142.4	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP099	SITE	513418.002	579383.96	0.5	B - Very Shallow (0.01-0.5m)	2.83559		2.83559	0.04949	3.5	11	0.50	1.50	12.88	1.0	4.29	1.0	2.0	0.0	12.88	1.0	4.29	1.0	2.0	2.0	1.0	2.0	1.0	284.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP100	SITE	513451.965	579382.508	1	C - Shallow (0.5-2.0m)	2.6214		2.6214	0.045752	3.5	11	1.00	2.00	6.96	1.0	3.48	1.0	2.0	0.0	6.96	1.0	3.48	1.0	2.0	2.0	1.0	2.0	1.0	280.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP101	SITE	513463.004	579286.371	0.8	C - Shallow (0.5-2.0m)	6.82921		6.82921	0.119192	3.5	11	0.80	1.80	3.37	1.0	1.50	1.0	2.0	0.0	3.37	1.0	1.50	1.0	2.0	2.0	1.0	2.0	1.0	183.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP102	SITE	513467.931	579348.545	0.3	B - Very Shallow (0.01-0.5m)	3.24569		3.24569	0.056648	3.5	11	0.30	1.30	18.76	1.0	4.33	1.0	2.0	0.0	18.76	1.0	4.33	1.0	2.0	2.0	1.0	2.0	1.0	246.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP103	SITE	513481.275	578648.72	0.4	B - Very Shallow (0.01-0.5m)	4.8492	INFERRED, VISIBLE	4.8492	0.084635	3.5	11	0.40	1.40	9.44	1.0	2.70	1.0	2.0	0.0	9.44	1.0	2.70	1.0	2.0	2.0	1.0	2.0	1.0	13.5	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP104	SITE	513492.107	578645.718	0.3	B - Very Shallow (0.01-0.5m)	4.87908	INFERRED , DRAIN	4.87908	0.085156	3.5	11	0.30	1.30	12.52	1.0	2.89	1.0	2.0	0.0	12.52	1.0	2.89	1.0	2.0	2.0	1.0	2.0	1.0	2.3	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP105	SITE	513492.605	579379.605	1	C - Shallow (0.5-2.0m)	3.20987		3.20987	0.056023	3.5	11	1.00	2.00	5.69	1.0	2.85	1.0	2.0	0.0	5.69	1.0	2.85	1.0	2.0	2.0	1.0	2.0	1.0	278.9	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk

SI Appendix B - Peat & Subsoil Survey Database

Inchamore WF, Co. Cork

Peat & Slope Stability Risk Assessment

Prepared by: SK 07/02/2023
RSK File Ref.: 603679-00.xls

Sample / Test Category	Sample / Test Point ID No.	Association	ITM Easting	ITM Northing	Thickness / Depth of peat	Classification of Thickness / Depth of peat	Slope (Extracted from GDEM)	Note	Parameter Values: Slope Angle	Slope Angle (For Excel Formula)	Undrained Shear Strenght (Conservative Value)	Bulk Unit weight of Peat (Conservative Value)	Scenario A: Depth to failure plane i.e. Peat Depth	Scenario B: Surcharge Equivalent Placed Fill Depth i.e. +1m	Scenario A: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{RAW} Factor of Safety (FoS) for Peat Stability	COEFFICIENT	FoS Adjustment Coefficient	FoS Adjustment Value	Scenario A: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Scenario B: FoS_{ADJ} Adjusted Factor of Safety (FoS) for Peat Stability	COEFFICIENT	Significant Feature Ranking Cefficient	Scenario A: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Scenario B: RR_{SF} Ranking Risk re Potential for Adverse Consequences on Sensitive Receptors	COEFFICIENT	Distance to Sensitive Receptor	Distance to Sensitive Receptor Coefficient	Scenario A: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category	Scenario B: RR_D Risk Ranking Acounting for Distance to Sensitive Receptors	Risk Category
									α	α	c'	y	z	z	$FoS = \frac{c_u}{yz\sin\alpha\cos\alpha}$						$FoS = \frac{c_u}{yz\sin\alpha\cos\alpha}$ + Adjustment Value				μ_{SF}						$\mu_{Dist.}$				
					m		Degrees		Degrees	Radians	kPa	kN/m3	m	m	FoS	μ	FoS	μ	μ	#	FoS	μ	FoS	μ	μ	RR-SF	μ	RR-SF	μ	m	μ	RR-D		RR-D	
Depth Probe	DP106	SITE	513493.543	578686.827	0.3	B - Very Shallow (0.01-0.5m)	5.53476	INFERRED, VISIBLE	5.53476	0.0966	3.5	11	0.30	1.30	11.05	1.0	2.55	1.0	2.0	0.0	11.05	1.0	2.55	1.0	2.0	2.0	1.0	2.0	1.0	2.5	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP107	SITE	513494	579382	1	C - Shallow (0.5-2.0m)	3.26679		3.26679	0.057016	3.5	11	1.00	2.00	5.59	1.0	2.80	1.0	2.0	0.0	5.59	1.0	2.80	1.0	2.0	2.0	1.0	2.0	1.0	281.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP108	SITE	513507	578646	0.2	B - Very Shallow (0.01-0.5m)	6.0525		6.0525	0.105636	3.5	11	0.20	1.20	15.17	1.0	2.53	1.0	2.0	0.0	15.17	1.0	2.53	1.0	2.0	2.0	1.0	2.0	1.0	11.5	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP109	SITE	513540	578652	0.2	B - Very Shallow (0.01-0.5m)	5.2313		5.2313	0.091303	3.5	11	0.20	1.20	17.52	1.0	2.92	1.0	2.0	0.0	17.52	1.0	2.92	1.0	2.0	2.0	1.0	2.0	1.0	42.3	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP110	SITE	513558.678	578709.629	0.4	B - Very Shallow (0.01-0.5m)	4.78559		4.78559	0.083524	3.5	11	0.40	1.40	9.57	1.0	2.73	1.0	2.0	0.0	9.57	1.0	2.73	1.0	2.0	2.0	1.0	2.0	1.0	65.4	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP111	SITE	513571	578660	0.1	B - Very Shallow (0.01-0.5m)	7.4715		7.4715	0.130402	3.5	11	0.10	1.10	24.68	1.0	2.24	1.0	2.0	0.0	24.68	1.0	2.24	1.0	2.0	2.0	1.0	2.0	1.0	73.2	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP112	SITE	513589	578661	0.1	B - Very Shallow (0.01-0.5m)	8.14645		8.14645	0.142182	3.5	11	0.10	1.10	22.68	1.0	2.06	1.0	2.0	0.0	22.68	1.0	2.06	1.0	2.0	2.0	1.0	2.0	1.0	91.2	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP113	SITE	513637.983	578732.245	0.5	B - Very Shallow (0.01-0.5m)	3.91545		3.91545	0.068337	3.5	11	0.50	1.50	9.34	1.0	3.11	1.0	2.0	0.0	9.34	1.0	3.11	1.0	2.0	2.0	1.0	2.0	1.0	147.5	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP114	T4	513659.662	579012.863	0.2	B - Very Shallow (0.01-0.5m)	11.1727		11.1727	0.195	3.5	11	0.20	1.20	8.37	1.0	1.39	1.0	2.0	0.0	8.37	1.0	1.39	1.0	2.0	2.0	1.0	2.0	1.0	191.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP115	T4	513678.657	578822.904	1	C - Shallow (0.5-2.0m)	11.47724		11.47724	0.200316	3.5	11	1.00	2.00	1.63	1.0	0.82	4.0	2.0	0.0	1.63	1.0	0.82	4.0	2.0	2.0	1.0	8.0	4.0	216.8	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP116	T4	513678.658	578993.867	0.1	B - Very Shallow (0.01-0.5m)	6.62442		6.62442	0.115618	3.5	11	0.100	1.10	27.77	1.0	2.52	1.0	2.0	0.0	27.77	1.0	2.52	1.0	2.0	2.0	1.0	2.0	1.0	208.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP117	T4	513682.656	578820.904	1	C - Shallow (0.5-2.0m)	11.47724		11.47724	0.200316	3.5	11	1.00	2.00	1.63	1.0	0.82	4.0	2.0	0.0	1.63	1.0	0.82	4.0	2.0	2.0	1.0	8.0	4.0	219.3	1.0	1.0	A - Very Low Risk	4.0	C - Moderate Risk
Depth Probe	DP118	T4	513686.952	578761.999	0.8	C - Shallow (0.5-2.0m)	9.36656	INFERRED, TRACK SIDE	9.36656	0.163477	3.5	11	0.80	1.80	2.48	1.0	1.10	2.0	2.0	0.0	2.48	1.0	1.10	2.0	2.0	2.0	1.0	4.0	2.0	202.5	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP119	T4	513689.655	578879.891	0.5	B - Very Shallow (0.01-0.5m)	9.79765		9.79765	0.171001	3.5	11	0.50	1.50	3.79	1.0	1.26	2.0	2.0	0.0	3.79	1.0	1.26	2.0	2.0	2.0	1.0	4.0	2.0	229.0	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP120	T4	513714.65	578969.872	0.1	B - Very Shallow (0.01-0.5m)	7.80224		7.80224	0.136175	3.5	11	0.10	1.10	23.66	1.0	2.15	1.0	2.0	0.0	23.66	1.0	2.15	1.0	2.0	2.0	1.0	2.0	1.0	244.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP121	T4	513717	579056	0.3	B - Very Shallow (0.01-0.5m)	11.77141		11.77141	0.20545	3.5	11	0.30	1.30	5.31	1.0	1.23	2.0	2.0	0.0	5.31	1.0	1.23	2.0	2.0	2.0	1.0	4.0	2.0	254.6	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP122	T4	513719.649	578978.87	0.1	B - Very Shallow (0.01-0.5m)	7.80224		7.80224	0.136175	3.5	11	0.10	1.10	23.66	1.0	2.15	1.0	2.0	0.0	23.66	1.0	2.15	1.0	2.0	2.0	1.0	2.0	1.0	249.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP123	T4	513728	579044	0.05	B - Very Shallow (0.01-0.5m)	11.87142		11.87142	0.207195	3.5	11	0.05	1.05	31.61	1.0	1.51	1.0	2.0	0.0	31.61	1.0	1.51	1.0	2.0	2.0	1.0	2.0	1.0	263.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP124	T4	513744	579023	0.2	B - Very Shallow (0.01-0.5m)	12.26207		12.26207	0.214013	3.5	11	0.20	1.20	7.67	1.0	1.28	2.0	2.0	0.0	7.67	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	276.6	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP125	T4	513746	579038	0.2	B - Very Shallow (0.01-0.5m)	12.26207		12.26207	0.214013	3.5	11	0.20	1.20	7.67	1.0	1.28	2.0	2.0	0.0	7.67	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	280.3	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP126	T4	513755.641	578936.879	0.1	B - Very Shallow (0.01-0.5m)	12.34511		12.34511	0.215463	3.5	11	0.10	1.10	15.23	1.0	1.38	1.0	2.0	0.0	15.23	1.0	1.38	1.0	2.0	2.0	1.0	2.0	1.0	287.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP127	SITE	513758.339	578282.564	0.5	B - Very Shallow (0.01-0.5m)	5.00775		5.00775	0.087402	3.5	11	0.50	1.50	7.32	1.0	2.44	1.0	2.0	0.0	7.32	1.0	2.44	1.0	2.0	2.0	1.0	2.0	1.0	224.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP128	T4	513768	579030	0.2	B - Very Shallow (0.01-0.5m)	8.15635		8.15635	0.142355	3.5	11	0.20	1.20	11.33	1.0	1.89	1.0	2.0	0.0	11.33	1.0	1.89	1.0	2.0	2.0	1.0	2.0	1.0	301.2	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP129	T4	513774	579048	0.1	B - Very Shallow (0.01-0.5m)	8.15635	Rock	8.15635	0.142355	3.5	11	0.10	1.10	22.66	1.0	2.06	1.0	2.0	0.0	22.66	1.0	2.06	1.0	2.0	2.0	1.0	2.0	1.0	309.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP130	T4	513781	579006	0.2	B - Very Shallow (0.01-0.5m)	5.08511		5.08511	0.088752	3.5	11	0.20	1.20	18.02	1.0	3.00	1.0	2.0	0.0	18.02	1.0	3.00	1.0	2.0	2.0	1.0	2.0	1.0	311.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP131	T4	513798	578986	0.5	B - Very Shallow (0.01-0.5m)	7.69429	Drain 0.1l/sec	7.69429	0.134291	3.5	11	0.50	1.50	4.80	1.0	1.60	1.0	2.0	0.0	4.80	1.0	1.60	1.0	2.0	2.0	1.0	2.0	1.0	327.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP132	T4	513814	578971	0.3	B - Very Shallow (0.01-0.5m)	8.9385		8.9385	0.156006	3.5	11	0.30	1.30	6.91	1.0	1.59	1.0	2.0	0.0	6.91	1.0	1.59	1.0	2.0	2.0	1.0	2.0	1.0	344.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP133	T4	513828	578957	0.05	B - Very Shallow (0.01-0.5m)	6.93989		6.93989	0.121124	3.5	11	0.05	1.05	53.06	1.0	2.53	1.0	2.0	0.0	53.06	1.0	2.53	1.0	2.0	2.0	1.0	2.0	1.0	358.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP134	T4	513844	578940	0.3	B - Very Shallow (0.01-0.5m)	10.06662		10.06662	0.175696	3.5	11	0.30	1.30	6.16	1.0	1.42	1.0	2.0	0.0	6.16	1.0	1.42	1.0	2.0	2.0	1.0	2.0	1.0	375.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP135	T5	513982.59	578541.963	0.6	C - Shallow (0.5-2.0m)	9.03814		9.03814	0.157745	3.5	11	0.60	1.60	3.42	1.0	1.28	2.0	2.0	0.0	3.42	1.0	1.28	2.0	2.0	2.0	1.0	4.0	2.0	490.7	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Depth Probe	DP136	T5	514008.584	578534.964	0.5	B - Very Shallow (0.01-0.5m)	7.20536		7.20536	0.125757	3.5	11	0.50	1.50	5.11	1.0	1.70	1.0	2.0	0.0	5.11	1.0	1.70	1.0	2.0	2.0	1.0	2.0	1.0	512.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP137	T5	514016.583	578554.96	0.3	B - Very Shallow (0.01-0.5m)	7.1321		7.1321	0.124479	3.5	11	0.30	1.30	8.61	1.0	1.99	1.0	2.0	0.0	8.61	1.0	1.99	1.0	2.0	2.0	1.0	2.0	1.0	527.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP139	T5	514094.566	578580.954	0.1	B - Very Shallow (0.01-0.5m)	8.42644		8.42644	0.147069	3.5	11	0.10	1.10	21.95	1.0	2.00	1.0	2.0	0.0	21.95	1.0	2.00	1.0	2.0	2.0	1.0	2.0	1.0	601.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP142	T5	514182.903	578674.794	1.2	C - Shallow (0.5-2.0m)	5.54985		5.54985	0.096863	3.5	11	1.20	2.20	2.75	1.0	1.50	1.0	2.0	0.0	2.75	1.0	1.50	1.0	2.0	2.0	1.0	2.0	1.0	685.0	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Depth Probe	DP150	SITE	521558	579082	3.6	E - Deep (3.5-5.0m)	0.0001	Flat	0.0001	1.75E-06	3.5	11	3.60	4.60	50640.21	1.0	39631.47	1.0	2.0	0.0	50640.21	1.0	39631.47	1.0	2.0	2.0	1.0	2.0	1.0	123.2	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP151	SITE	512830.264	578519.994	0.5	B - Very Shallow (0.01-0.5m)	8.57213	INFERRED	8.57213	0.149612	3.5	11	0.50	1.50	4.32	1.0	1.44	1.0	2.0	0.0	4.32	1.0	1.44	1.0	2.0	2.0	1.0	2.0	1.0	143.9	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP152	T2	512849.048	578544.284	0.5	B - Very Shallow (0.01-0.5m)	7.6984	INFERRED	7.6984	0.134362	3.5	11	0.50	1.50	4.79	1.0	1.60	1.0	2.0	0.0	4.79	1.0	1.60	1.0	2.0	2.0	1.0	2.0	1.0	113.2	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP153	T2	512867.185	578564.041	0.5	B - Very Shallow (0.01-0.5m)	3.87025	INFERRED	3.87025	0.067549	3.5	11	0.50	1.50	9.45	1.0	3.15	1.0	2.0	0.0	9.45	1.0	3.15	1.0	2.0	2.0	1.0	2.0	1.0	86.8	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP154	T2	512883.703	578588.655	0.5	B - Very Shallow (0.01-0.5m)	6.5471	INFERRED	6.5471	0.114268	3.5	11	0.50	1.50	5.62	1.0	1.87	1.0	2.0	0.0	5.62	1.0	1.87	1.0	2.0	2.0	1.0	2.0	1.0	57.1	2.0	2.0	B - Low Risk	2.0	B - Low Risk
Depth Probe	DP155	T2	512898.277	578605.496	0.5	B - Very Shallow (0.01-0.5m)	12.38986	INFERRED	12.38986	0.216244	3.5	11	0.50	1.50	3.04	1.0	1.01	2.0	2.0	0.0	3.04	1.0	1.01	2.0	2.0	2.0	1.0	4.0	2.0	35.0	4.0	4.0	C - Moderate Risk	8.0	D - High Risk
Depth Probe	DP156	T2	512911.556	578622.662	0.5	B - Very Shallow (0.01-0.5m)	13.05768	INFERRED	13.05768	0.2279	3.5	11	0.20	1.20	7.23	1.0	1.20	2.0	2.0	0.0	7.23	1.0	1.20	2.0	2.0	2.0	1.0	4.0	2.0	13.4	4.0	4.0	C - Moderate Risk	8.0	D - High Risk
Depth Probe	DP157	T2	512918.357	578630.435	0.5	B - Very Shallow (0.01-0.5m)	13.63092	INFERRED	13.63092	0.237904	3.5	11	0.50	1.50	2.78	1.0	0.93	4.0	2.0	0.0	2.78	1.0	0.93	4.0	2.0	2.0	1.0	8.0	4.0	3.2	4.0	4.0	C - Moderate Risk	16.0	D - High Risk
Depth Probe	DP158	T2	512923.863	578637.56	0.5	B - Very Shallow (0.01-0.5m)	9.73503	INFERRED	9.73503	0.169908	3.5	11	0.50	1.50	3.82	1.0	1.27	2.0	2.0	0.0	3.82	1.0	1.27	2.0	2.0	2.0	1.0	4.0	2.0	5.9	4.0	4.0	C - Moderate Risk	8.0	D - High Risk
Depth Probe	DP159	T2	512935.847	578651.487	0.5	B - Very Shallow (0.01-0.5m)	9.73503	INFERRED	9.73503	0.169908	3.5	11	0.50	1.50	3.82	1.0	1.27	2.0	2.0	0.0	3.82	1.0	1.27	2.0	2.0	2.0	1.0	4.0	2.0	24.0	4.0	4.0	C - Moderate Risk	8.0	D - High Risk
Depth Probe	DP160	T2	512944.915	578665.089	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.01271	0.104942	3.5	11	0.50	1.50	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	8.4	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP161	T2	512955.279	578672.862	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.01271	0.104942	3.5	11	0.50	1.50	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	4.5	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP162	T2	512969.853	578689.38	0.5	B - Very Shallow (0.01-0.5m)	7.25883	INFERRED	7.25883	0.12669	3.5	11	0.50	1.50	5.08	1.0	1.69	1.0	2.0	0.0	5.08	1.0	1.69	1.0	2.0	2.0	1.0	2.0	1.0	26.4	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP163	T2	512982.808	578704.926	0.5	B - Very Shallow (0.01-0.5m)	7.52427	INFERRED	7.52427	0.131323	3.5	11	0.50	1.50	4.90	1.0	1.63	1.0	2.0	0.0	4.90	1.0	1.63	1.0	2.0	2.0	1.0	2.0	1.0	46.6	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP164	T2	512880.788	578718.529	0.5	B - Very Shallow (0.01-0.5m)	12.32755	INFERRED	12.32755	0.215156	3.5	11	0.50	1.50	3.05	1.0	1.02	2.0	2.0	0.0	3.05	1.0	1.02	2.0	2.0	2.0	1.0	4.0	2.0	36.2	4.0	4.0	C - Moderate Risk	8.0	D - High Risk
Depth Probe	DP165	T2	512900.544	578702.011	0.5	B - Very Shallow (0.01-0.5m)	14.02991	INFERRED	14.02991	0.244868	3.5	11	0.50	1.50	2.71	1.0	0.90	4.0	2.0	0.0	2.71	1.0	0.90	4.0	2.0	2.0	1.0	8.0	4.0	23.8	4.0	4.0	C - Moderate Risk	16.0	D - High Risk
Depth Probe	DP166	T2	512913.823	578692.295	0.5	B - Very Shallow (0.01-0.5m)	14.77308	INFERRED	14.77308	0.257839	3.5	11	0.50	1.50	2.58	1.0	0.86	4.0	2.0	0.0	2.58	1.0	0.86	4.0	2.0	2.0	1.0	8.0	4.0	15.8	4.0	4.0	C - Moderate Risk	16.0	D - High Risk
Depth Probe	DP167	T2	512930.341	578679.016	0.5	B - Very Shallow (0.01-0.5m)	7.95622	INFERRED	7.95622	0.138862	3.5	11	0.50	1.50	4.64	1.0	1.55	1.0	2.0	0.0	4.64	1.0	1.55	1.0	2.0	2.0	1.0	2.0	1.0	9.0	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP168	T2	512942	578670.595	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.01271	0.104942	3.5	11	0.50	1.50	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	6.5	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP169	T2	512956.898	578659.907	0.5	B - Very Shallow (0.01-0.5m)	6.01271	INFERRED	6.01271	0.104942	3.5	11	0.50	1.50	6.11	1.0	2.04	1.0	2.0	0.0	6.11	1.0	2.04	1.0	2.0	2.0	1.0	2.0	1.0	2.3	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP170	T2	512974.711	578650.191	0.5	B - Very Shallow (0.01-0.5m)	7.77752	INFERRED	7.77752	0.135743	3.5	11	0.50	1.50	4.75	1.0	1.58	1.0	2.0	0.0	4.75	1.0	1.58	1.0	2.0	2.0	1.0	2.0	1.0	2.8	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Depth Probe	DP171	T2	512991.553	578638.855	0.5	B - Very Shallow (0.01-0.5m)	7.79146	INFERRED	7.79146	0.135987	3.5	11	0.50	1.50	4.74	1.0	1.58	1.0	2.0	0.0	4.74	1.0	1.58	1.0	2.0	2.0	1.0	2.0	1.0	3.1	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Trail Pit	TP01	T5	514105	578650	0.3	B - Very Shallow (0.01-0.5m)	6.5297		6.5297	0.113965	3.5	11	0.30	1.30	9.39	1.0	2.17	1.0	2.0	0.0	9.39	1.0	2.17	1.0	2.0	2.0	1.0	2.0	1.0	607.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP02	T5	513978	578679	1	C - Shallow (0.5-2.0m)	6.22902		6.22902	0.108717	3.5	11	1.00	2.00	2.95	1.0	1.47	1.0	2.0	0.0	2.95	1.0	1.47	1.0	2.0	2.0	1.0	2.0	1.0	480.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP03	T5	513964	578729	0.8	C - Shallow (0.5-2.0m)	5.65128		5.65128	0.098633	3.5	11	0.80	1.80	4.06	1.0	1.80	1.0	2.0	0.0	4.06	1.0	1.80	1.0	2.0	2.0	1.0	2.0	1.0	469.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP04	T4	513750	578906	0.4	B - Very Shallow (0.01-0.5m)	12.16074		12.16074	0.212245	3.5	11	0.40	1.40	3.86	1.0	1.10	2.0	2.0	0.0	3.86	1.0	1.10	2.0	2.0	2.0	1.0	4.0	2.0	284.1	1.0	1.0	A - Very Low Risk	2.0	B - Low Risk
Trail Pit	TP05	T4	513761	579123	0.3	B - Very Shallow (0.01-0.5m)	5.05258		5.05258	0.088184	3.5	11	0.30	1.30	12.09	1.0	2.79	1.0	2.0	0.0	12.09	1.0	2.79	1.0	2.0	2.0	1.0	2.0	1.0	301.1	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP06	SITE	513543	579269	0.2	B - Very Shallow (0.01-0.5m)	4.07497		4.07497	0.071122	3.5	11	0.20	1.20	22.44	1.0	3.74	1.0	2.0	0.0	22.44	1.0	3.74	1.0	2.0	2.0	1.0	2.0	1.0	185.7	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP07	T3	512950	578987	0.2	B - Very Shallow (0.01-0.5m)	11.36258		11.36258	0.198314	3.5	11	0.20	1.20	8.24	1.0	1.37	1.0	2.0	0.0	8.24	1.0	1.37	1.0	2.0	2.0	1.0	2.0	1.0	169.3	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP08	T3	512974	579057	0.2	B - Very Shallow (0.01-0.5m)	9.37515		9.37515	0.163627	3.5	11	0.20	1.20	9.90	1.0	1.65	1.0	2.0	0.0	9.90	1.0	1.65	1.0	2.0	2.0	1.0	2.0	1.0	240.4	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP09	T3	512989	579081	0.2	B - Very Shallow (0.01-0.5m)	7.6724		7.6724	0.133909	3.5	11	0.20	1.20	12.02	1.0	2.00	1.0	2.0	0.0	12.02	1.0	2.00	1.0	2.0	2.0	1.0	2.0	1.0	268.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP10	SITE	513253	578571	0.5	B - Very Shallow (0.01-0.5m)	8.84214		8.84214	0.154324	3.5	11	0.50	1.50	4.19	1.0	1.40	1.0	2.0	0.0	4.19	1.0	1.40	1.0	2.0	2.0	1.0	2.0	1.0	207.8	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP11	T2	512781	578602	0.4	B - Very Shallow (0.01-0.5m)	12.49517		12.49517	0.218082	3.5	11	0.40	1.40	3.77	1.0	1.08	2.0	2.0	0.0	3.77	1.0	1.08	2.0	2.0	2.0	1.0	4.0	2.0	103.1	2.0	2.0	B - Low Risk	4.0	C - Moderate Risk
Trail Pit	TP12	T2	512867	578632	0.3	B - Very Shallow (0.01-0.5m)	9.46395		9.46395	0.165177	3.5	11	0.30	1.30	6.54	1.0	1.51	1.0	2.0	0.0	6.54	1.0	1.51	1.0	2.0	2.0	1.0	2.0	1.0	30.1	4.0	4.0	C - Moderate Risk	4.0	C - Moderate Risk
Trail Pit	TP13	T1	512589	578911	0.1	B - Very Shallow (0.01-0.5m)	6.30381		6.30381	0.110022	3.5	11	0.10	1.10	29.15	1.0	2.65	1.0	2.0	0.0	29.15	1.0	2.65	1.0	2.0	2.0	1.0	2.0	1.0	182.5	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP14	T1	512554	579045	3.1	D - Moderately Deep (2.0-3.5m)	2.39487		2.39487	0.041798	3.5	11	3.10	4.10	2.46	1.0	1.86	1.0	2.0	0.0	2.46	1.0	1.86	1.0	2.0	2.0	1.0	2.0	1.0	294.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP15	T1	512439	578989	0.3	B - Very Shallow (0.01-0.5m)	3.12206		3.12206	0.05449	3.5	11	0.30	1.30	19.50	1.0	4.50	1.0	2.0	0.0	19.50	1.0	4.50	1.0	2.0	2.0	1.0	2.0	1.0	351.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk
Trail Pit	TP16	T1	512293	578980	0.2	B - Very Shallow (0.01-0.5m)	4.67019	Groundwater logged at base	4.67019	0.08151	3.5	11	0.20	1.20	19.60	1.0	3.27	1.0	2.0	0.0	19.60	1.0	3.27	1.0	2.0	2.0	1.0	2.0	1.0	482.6	1.0	1.0	A - Very Low Risk	1.0	A - Very Low Risk

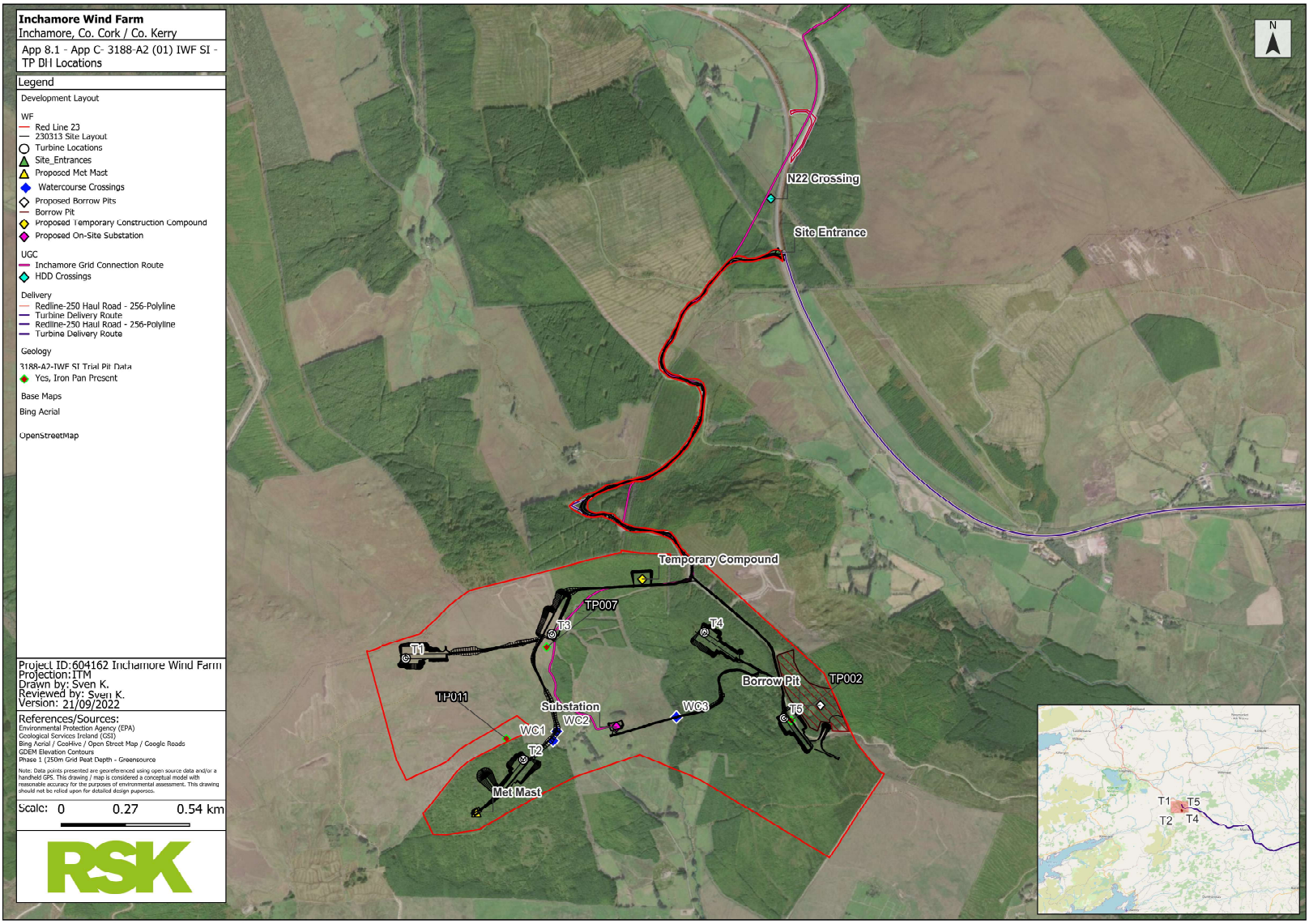
x	177	177		177	177	177	177	177	71	177	177	177	177	177	177	177		177				177	177	177	177		177	177	177	177			177			
x						111.002	0.000	1253.539		1254	22	620	1947	111	288	793741		40030				793741	178	40030	240		356	178	480	240			280			
x						3.600	0.000	14.773		15	0	4	11	4	5	207449		39631				207449	2	39631	4		4	2	8	4			4			
x						0.000	0.000	0.000		0	0	4	11	0	1	1		1				1	1	1	1		2	1	2	1			1			
x						3.600	0.000	14.773		15	0	0	0	4	4	207448		39631				207448	1	39631	3		2	1	6	3			3			
x						0.627	#DIV/0!	7.082		7	0	4	11	1	2	4484		226				4484	1	226	1		2	1	3	1			2			
x																																				

(cyan)	Inferred value e.g. nearest neighbour or guidance.
(pink)	Formula driven
(yellow)	Note accompanying
(green)	Data needs checking
(grey)	No data / not done

FoS	Factor of Safety
c_u	Undrained Strength
y	Bulk unit weight
z	Depth to failure plane assumed depth
α	Slope angle

FoS	Factor of Safety
c_u	Undrained Strength
y	Bulk unit weight
z	Depth to failure plane assumed depth of peat
α	Slope angle

Appendix C


Inchamore Wind Farm
Inchamore, Co. Cork / Co. Kerry
App 8.1 - App C- 3188-A2 (01) IWF SI - TP BH Locations
Legend
Development Layout
WF
Red Line 23
230313 Site Layout
Turbine Locations
Site_Entrances
Proposed Met Mast
Watercourse Crossings
Proposed Borrow Pits
Borrow Pit
Proposed Temporary Construction Compound
Proposed On-Site Substation
UGC
Inchamore Grid Connection Route
HDD Crossings
Delivery
Redline-250 Haul Road - 256-Polyline
Turbine Delivery Route
Redline-250 Haul Road - 256-Polyline
Turbine Delivery Route
Geology
3188-A2-IWF SI Trial Pit Data
Yes, Iron Pan Present
Base Maps
Bing Aerial
OpenStreetMap
Project ID:604162 Inchamore Wind Farm
Projection:ITM
Drawn by: Sven K.
Reviewed by: Sven K.
Version: 21/09/2022
References/Sources:
Environmental Protection Agency (EPA)
Geological Services Ireland (GSI)
Bing Aerial / GeoHive / Open Street Map / Google Roads
GDEM Elevation Contours
Phase 1 (250m Grid Peat Depth - Greensource
Note: Data points presented are georeferenced using open source data and/or a handheld GPS. This drawing / map is considered a conceptual model with reasonable accuracy for the purposes of environmental assessment. This drawing should not be relied upon for detailed design purposes.
Scale: 0 0.27 0.54 km
RSK
N
N22 Crossing
Site Entrance
Temporary Compound
TP007
T3
T4
T1
TP011
Substation
WC2
WC1
WC3
T2
T5
Borrow Pit
TP002
Met Mast
T1
T5
T2
T4

Appendix D

Inchamore WF, Co. Cork

SI Trial Pit Logs

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	Geological description	Natural / Made
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage (see * below)	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)				
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Medium Brown	N
						0.5		Sandy Gravelly **CLAY** w/ Cobbles. Medium Brown	N
						1.0		Boulders / Weathered Bedrock	N
						1.5		**EOH –** Weathered Bedrock / Boulders	
						2.0			
						2.5			
						3.0			
						3.5			
						4.0			

INVESTIGATION POINT LOG NUMBER	TP001
Client, Project, Location	JOD (Coillte), Inchamore WF , Cork
Minerex work item	A2
Page No.	1 of 1
Date & time drilled / formed:	02/06/2021
Logged by (drawn by) [checked by]:	SK
Drilling / Trial pitting co. & equipment	Excavator
Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)
Irish Transverse Mercator (ITM)**	514105, 578650

*** Non-natural material %s with total % in ( )**

NON-DEGRADABLE % (ND): 1 = **Brick**, 2 = **Concrete**, 3 = **Glass**, 4 = **Ceramic tiles,** 5 = **ACMs** (asbestos containing materials such as roof tiles, piping). 6 = **Blue Bangor slate.**

DEGRADABLE % (D): 7 = **Plastic**, 8 = **Metal**, 9 = **Wood / Organic / Leaves / Twigs / Peat**, 10 = **Ash & Clinker**, 11 = **Charcoal**, 12 = **Tarmacadam**, 13 = **Leather, 14 = Coal Tar**

******1-From hand held GPS, 2-Estimated from google maps or 3-Surveyed with theodolite.

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: **- Brown** (LB, MB, DB) **- Grey** (LG, MG, DG) **- Mustard - Beige (tan) - Olive - Mottled - Orange**

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	Geological description	Natural / Made
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage (see * below)	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)				
N/A		N/A	N/A			0.5		**CLAY.** Grey Brown	N
						1.0		**PEAT/PEATY SOIL.** Medium Brown	N
						1.5		Sandy Gravelly **CLAY.** Grey Brown	N
						2.0		Sandy Gravelly Cobbly **CLAY** w/ Boulders. Purplish Grey	N
						2.5		Bigger Boulders	
						3.0		**EOH –** Obstruction (Boulders)	
						3.5			
						4.0			

Borehole/ Trial Pit Design & Completion	INVESTIGATION POINT LOG NUMBER: TP002
	Client, Project, Location: JOD (Coillte), Inchamore WF , Cork
	Minerex work item: A2
	Page No.: 1 of 1
	Date & time drilled / formed: 02/06/2021
	Logged by (drawn by) [checked by]: SK
	Drilling / Trial pitting co. & equipment: Excavator
	Doc. Ref.: (File Ref. 3188-A2-024; 603679 App D)
	Irish Transverse Mercator (ITM)**: 513978, 578679

*** Non-natural material %s with total % in ( )**

NON-DEGRADABLE % (ND): 1 = **Brick**, 2 = **Concrete**, 3 = **Glass**, 4 = **Ceramic tiles,** 5 = **ACMs** (asbestos containing materials such as roof tiles, piping). 6 = **Blue Bangor slate.**

DEGRADABLE % (D): 7 = **Plastic**, 8 = **Metal**, 9 = **Wood / Organic / Leaves / Twigs / Peat**, 10 = **Ash & Clinker**, 11 = **Charcoal**, 12 = **Tarmacadam**, 13 = **Leather, 14 = Coal Tar**

******1-From hand held GPS, 2-Estimated from google maps or 3-Surveyed with theodolite.

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling: Sample number & interval (mbGL) *(Sample 10 kg minimum)*	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)	Depth in metres below ground level, also (maODM) & [*Thickness*]	Geology (graphical log)	Geological description	Natural / Made
N/A		N/A	N/A			0.0		**PEAT/PEATY SOIL.** Dark Brown; Mixed/Disturbed	N
						1.0		Sandy Gravelly **CLAY.** Brown Grey	N
						1.5		Sandy Gravelly **CLAY** w/ Cobbles and Boulders. Blue Grey / Purple Grey.	N
						2.0			
						2.5		Bigger Boulders	
						3.0		**EOH**	
						3.5			
						4.0			

INVESTIGATION POINT LOG NUMBER	TP003
Client, Project, Location	JOD (Coillte), Inchamore WF , Cork
Minerex work item	A2
Page No.	1 of 1
Date & time drilled / formed:	02/06/2021
Logged by (drawn by) [checked by]:	SK
Drilling / Trial pitting co. & equipment	Excavator
Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)
Irish Transverse Mercator (ITM)**	0513964, 0578729

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	Geological description	Natural / Made
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* **Red line** = Single channel sample (from field) **Blue line** = Composite sample (generated in office or lab) **Green line** = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)				
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown	N
						0.5		Sandy **CLAY.** Medium Brown	N
						1.0		Sandy **CLAY.** Grey	N
						1.5			
						2.0			
						2.5		**EOH –** Big Boulders	
						3.0			
						3.5			
						4.0			

Investigation Point Log Number	TP004
Client, Project, Location	JOD (Coillte), Inchamore WF , Cork
Minerex work item	A2
Page No.	1 of 1
Date & time drilled / formed:	02/06/2021
Logged by (drawn by) [checked by]:	SK
Drilling / Trial pitting co. & equipment	Excavator
Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)
Irish Transverse Mercator (ITM)**	0513750, 0578906

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	INVESTIGATION POINT LOG NUMBER	TP005	
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)			Client, Project, Location	JOD (Coillte), Inchamore WF , Cork	
								Minerex work item	A2	
								Page No.	1 of 1	
								Date & time drilled / formed:	02/06/2021	
								Logged by (drawn by) [checked by]:	SK	
								Drilling / Trial pitting co. & equipment	Excavator	
								Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)	
								Irish Transverse Mercator (ITM)**	513761, 579123	
								Geological description		Natural / Made
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown		N
						0.5		Sandy Gravelly **CLAY** w/ boulders. Medium Brown		N
						1.0				
						1.5				
						2.0				
						2.5				
						3.0				
						3.5				
						4.0		**EOH –** Boulders		

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	INVESTIGATION POINT LOG NUMBER	TP006	
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)			Client, Project, Location	JOD (Coillte), Inchamore WF , Cork	
								Minerex work item	A2	
								Page No.	1 of 1	
								Date & time drilled / formed:	02/06/2021	
								Logged by (drawn by) [checked by]:	SK	
								Drilling / Trial pitting co. & equipment	Excavator	
								Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)	
								Irish Transverse Mercator (ITM)**	513543, 579269	
								Geological description		Natural / Made
N/A		N/A	N/A			0.0		**PEAT/PEATY SOIL.** Dark Brown		N
						0.5		Clayey, Sandy **GRAVEL** / **TILL** w/ Cobbles		N
						1.0				
						1.5				
						2.0				
						2.5		**EOH** End of turning point, ground level below baseline. Cut side +2m. Peat 0.2mbGL, Brown till 0.3, grey as logged to existing GL.		
						3.0				
						3.5				
						4.0				

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	Geological description	Natural / Made
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)				
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown	N
								Sandy Gravelly **CLAY.** Medium Brown	N
						0.5			
								Sandy Gravelly **CLAY** with cobbles. Blue grey	
						1.0			N
								Iron stain	
						1.5		Iron stain	
						2.0		Iron stain	
						2.5			
						3.0			
								EOH – Weathered Bedrock / Boulders	
						3.5			
						4.0			

INVESTIGATION POINT LOG NUMBER	TP007
Client, Project, Location	JOD (Coillte), Inchamore WF , Cork
Minerex work item	A2
Page No.	1 of 1
Date & time drilled / formed:	03/06/2021
Logged by (drawn by) [checked by]:	SK
Drilling / Trial pitting co. & equipment	Excavator
Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)
Irish Transverse Mercator (ITM)**	0512950, 0578987

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	INVESTIGATION POINT LOG NUMBER	TP008	
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)			Client, Project, Location	JOD (Coillte), Inchamore WF , Cork	
								Minerex work item	A2	
								Page No.	1 of 1	
								Date & time drilled / formed:	03/06/2021	
								Logged by (drawn by) [checked by]:	SK	
								Drilling / Trial pitting co. & equipment	Excavator	
								Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)	
								Irish Transverse Mercator (ITM)**	512974, 579057	
								Geological description		Natural / Made
N/A		N/A	N/A			0.0		**PEAT/PEATY SOIL.** Dark Brown		N
						0.5		Sandy Gravelly **CLAY** w/ cobbles.		N N
						1.0				N
						1.5				
						2.0				
						2.5				
						3.0		**EOH –** Weathered Bedrock / Boulders		
						3.5				
						4.0				

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling: Sample number & interval (mbGL) *(Sample 10 kg minimum)*	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)	Depth in metres below ground level, also (maODM) & [*Thickness*]	Geology (graphical log)	Geological description	Natural / Made
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown	N
								Sandy Gravelly **CLAY** w/ cobbles. Medium Brown	N
						0.5		Sandy Gravelly **CLAY** w/ cobbles and boulders. Medium Brown	N
						1.0			
						1.5		Bigger Boulders	
						2.0		**EOH**	
						2.5			
						3.0			
						3.5			
						4.0			

INVESTIGATION POINT LOG NUMBER	TP009
Client, Project, Location	JOD (Coillte), Inchamore WF , Cork
Minerex work item	A2
Page No.	1 of 1
Date & time drilled / formed:	03/06/2021
Logged by (drawn by) [checked by]:	SK
Drilling / Trial pitting co. & equipment	Excavator
Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)
Irish Transverse Mercator (ITM)**	512989, 579081

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	INVESTIGATION POINT LOG NUMBER	TP010	
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* **Red line** = Single channel sample (from field) **Blue line** = Composite sample (generated in office or lab) **Green line** = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)			Client, Project, Location	JOD (Coillte), Inchamore WF , Cork	
								Minerex work item	A2	
								Page No.	1 of 1	
								Date & time drilled / formed:	03/06/2021	
								Logged by (drawn by) [checked by]:	SK	
								Drilling / Trial pitting co. & equipment	Excavator	
								Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)	
								Irish Transverse Mercator (ITM)**	0513253, 0578571	
								Geological description		Natural / Made
N/A		N/A	N/A					**TOPSOIL**		N
								Sandy Gravelly **CLAY**. Brown		N
								PEAT/PEATY SOIL. Dark Brown		
						0.5		Sandy Gravelly **CLAY**. Brown		
								Sandy Gravelly **CLAY**. Blue Grey		
						1.0				
						1.5				
						2.0		Big Boulder		
						2.5		**EOH**		
						3.0				
						3.5				
						4.0				

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	Geological description	Natural / Made
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)				
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown	N
						0.5		Very clayey very sandy **GRAVEL.**	N
						1.0			
						1.5			
						2.0		**EOH –** Weathered Bedrock	
						2.5			
						3.0			
						3.5			
						4.0			

Client, Project, Location	JOD (Coillte), Inchamore WF , Cork
Minerex work item	A2
Page No.	1 of 1
Date & time drilled / formed:	03/06/2021
Logged by (drawn by) [checked by]:	SK
Drilling / Trial pitting co. & equipment	Excavator
Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)
Irish Transverse Mercator (ITM)**	512781, 578602

INVESTIGATION POINT LOG NUMBER TP011

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	INVESTIGATION POINT LOG NUMBER	TP012	
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)			Client, Project, Location	JOD (Coillte), Inchamore WF , Cork	
								Minerex work item	A2	
								Page No.	1 of 1	
								Date & time drilled / formed:	03/06/2021	
								Logged by (drawn by) [checked by]:	SK	
								Drilling / Trial pitting co. & equipment	Excavator	
								Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)	
								Irish Transverse Mercator (ITM)**	512867, 578632	
								Geological description		Natural / Made
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown		N
								Weathered Bedrock		N
						0.5		**EOH –** Weathered Bedrock		
						1.0				
						1.5				
						2.0				
						2.5				
						3.0				
						3.5				
						4.0				

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	INVESTIGATION POINT LOG NUMBER	TP013	
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* **Red line** = Single channel sample (from field) **Blue line** = Composite sample (generated in office or lab) **Green line** = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)			Client, Project, Location	JOD (Coillte), Inchamore WF , Cork	
								Minerex work item	A2	
								Page No.	1 of 1	
								Date & time drilled / formed:	03/06/2021	
								Logged by (drawn by) [checked by]:	SK	
								Drilling / Trial pitting co. & equipment	Excavator	
								Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)	
								Irish Transverse Mercator (ITM)**	0512589, 0578911	
								Geological description		Natural / Made
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown		N
								Sandy Gravelly **CLAY**		N
						0.5		Sandy Gravelly **CLAY** w/ cobbles and boulder. Blue grey.		
						1.0				
						1.5		**EOH –** Boulders		
						2.0				
						2.5				
						3.0				
						3.5				
						4.0				

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling					Depth in metres below ground level, also (maODM) & [Thickness]	Geology (graphical log)	INVESTIGATION POINT LOG NUMBER	TP014	
	Sample number & interval (mbGL) *(Sample 10 kg minimum)* Red line = Single channel sample (from field) Blue line = Composite sample (generated in office or lab) Green line = Grab sample (acquired on site)	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)			Client, Project, Location	JOD (Coillte), Inchamore WF , Cork	
								Minerex work item	A2	
								Page No.	1 of 1	
								Date & time drilled / formed:	03/06/2021	
								Logged by (drawn by) [checked by]:	SK	
								Drilling / Trial pitting co. & equipment	Excavator	
								Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)	
								Irish Transverse Mercator (ITM)**	512554, 579045	
								Geological description		Natural / Made
N/A		N/A	N/A			0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0		**PEAT/PEATY SOIL.** Dark Brown TP abandoned, deep peat encountered, probe point <5m from TP = 2.0mbGL. See peat probing data for area.		N

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling: Sample number & interval (mbGL) *(Sample 10 kg minimum)*	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)	Depth in metres below ground level, also (maODM) & [*Thickness*]	Geology (graphical log)	Geological description	Natural / Made
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown	N
								Sandy Gravelly Cobbly **CLAY**, Brown	N
						0.5		**EOH.** Bedrock	
						1.0			
						1.5			
						2.0			
						2.5			
						3.0			
						3.5			
						4.0			

Borehole/ Trial Pit Design & Completion	INVESTIGATION POINT LOG NUMBER: TP015
	Client, Project, Location: JOD (Coillte), Inchamore WF , Cork
	Minerex work item: A2
	Page No.: 1 of 1
	Date & time drilled / formed: 03/06/2021
	Logged by (drawn by) [checked by]: SK
	Drilling / Trial pitting co. & equipment: Excavator
	Doc. Ref.: (File Ref. 3188-A2-024; 603679 App D)
	Irish Transverse Mercator (ITM)**: 512439, 578989

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

Borehole/ Trial Pit Design & Completion	Soil (S) / Water (W) / Vapour (V) Sampling: Sample number & interval (mbGL) *(Sample 10 kg minimum)*	Non-Natural Ground Percentage	PID (ppm) Bagged sample (BS); Trial Pit Wall (TPW); Soil Core (SC); BH Arisings (BHA); Trial Pit Clumps (TPC)	Odour strength & description (none, weak, moderate, strong)	Groundwater occurrence (See legend for symbols used for dry, damp and wet)	Depth in metres below ground level, also (maODM) & [*Thickness*]	Geology (graphical log)	Geological description	Natural / Made
N/A		N/A	N/A					**PEAT/PEATY SOIL.** Dark Brown	N
								Sandy Gravelly Cobbly **CLAY**, Brown	N
						0.5		**EOH.** Bedrock.	
						1.0			
						1.5			
						2.0			
						2.5			
						3.0			
						3.5			
						4.0			

Investigation Point Log Number	TP016
Client, Project, Location	JOD (Coillte), Inchamore WF , Cork
Minerex work item	A2
Page No.	1 of 1
Date & time drilled / formed:	03/06/2021
Logged by (drawn by) [checked by]:	SK
Drilling / Trial pitting co. & equipment	Excavator
Doc. Ref.	(File Ref. 3188-A2-024; 603679 App D)
Irish Transverse Mercator (ITM)**	512293, 578980

* Unreliable data. Indication only.

** From hand held GPS

A DOMINANT GEOLOGICAL COMPONENT: Clay, Silt, Sand, Gravel, Cobble, Boulder deposit

B NON-DOMINANT GEOLOGICAL COMPONENT: Clay - Silt - Sand Gravel - Cobble - Boulder

C COLOUR: - Brown (LB, MB, DB) - Grey (LG, MG, DG) - Mustard - Beige (tan) - Olive - Mottled - Orange

D STIFFNESS: VST - V. Soft; ST = Soft; F = Firm; S = Stiff; VS = V. Stiff)

E LAYER ID, RECOVERY & STONE: % recovery; % >10mm stone

F NN or N

RSK

Write additional help notes on macropores, mottling etc as space allows

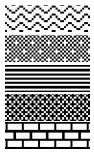
F Interpretation

NN = Non-natural ground (fill / made up ground / disturbed natural); N = Natural ground)

GENERAL LEGEND, ABBREVIATIONS AND INSTALLATION DETAILS

BEDROCK

Metamorphic bedrock
Igneous bedrock
Mudstone / Shale bedrock
Siltstone / Sandstone bedrock
Limestone bedrock



COLOUR

Brown (Light, medium, dark)
Grey (Light, medium, dark)
Mustard
Beige (tan)
Olive
Mottled
Orange

GRAIN SIZE (Soil)

Clay (% of)	C(20)
Silt (% of)	St(20)
Sand (% of)	Sd(20)
Gravel (% of)	G(20)
Sand (Fine to Medium)	Sd_{F-M}
Gravel (Fine to Coarse Subangular to angular)	$G_{F-C\ SA-A}$

MONITORING POINT COMPLETIONS

TS/C1/PH1 Terminal Site/Couple no./Phreatic no.
PR/C2/P2 Peat Repository/Couple no./Piezometer no.
H7 Von Post humification scale
Push-on cap
Screen
Casing
Porous tip
Drive cone
P1 PH1 Piezometer no. and Phreatic tube no.
Bentonite pellets
Cement-Bentonite grout
Gravel pack, nominal 2-5mm in diameter
Damp, wet and water strike respectively
1/2/03 Static water table (with date measured and hours since installation)

PLAN SKETCHES

PWS1 Hand dug trial pits / Shallow pit excavations (JCB)
TP1 Percussion Window Sampler (PWS) boreholes
100 BG FID/PID in ppm Hydrocarbons with BG = background
99.791 Reduced levels - maOD Malin
Oil pipeline
Storage tanks (Overground and underground)

OVERBURDEN

(Description uses BS 5930 and GSI guidelines)

BOULDER(S) (>200mm)
COBBLES (60 to 200mm)
GRAVEL (Homogeneous larger sized particles from 2 to 60 mm)
SAND (General, if without grain size description) Particle sizes: 2 to 0.06mm. Three sub-categories distinguishable to the eye)
Coarse **SAND** (2-0.6mm)
Medium **SAND** (0.6-0.2mm)
Fine **SAND** (0.2-0.06mm)
SILT (0.06 - 0.002mm)
CLAYS (<0.002mm)
CONCRETE
TARMACADAM
CRUSHED STONE or AGGREGATE
LANDFILL (eg plastic, glass, wood, domestic waste, concrete etc.)
FILL OR BACKFILLED GROUND (unspecified)
COLLAPSED FORMATION (with possible voids) or **DRILL CHIPPINGS / MATERIAL RETURNED BY AIR FLUSH DRILLING**
LOSS (Blank - white)
TOP SOIL
PEAT (General) (with descriptions such as colour, plant remains evident, distinct H_2S smell etc) (H (Von Post) value associated commonly)

MONITORING POINT DESIGN FOR PEAT SUBSOILS

Push-on, female cap

The cap is loosely fitted to allow easy removal. The piezometer is labelled using indellible ink inside and outside the cap. A small hole is drilled in the side to enable air movement in and out of the piezometer.

Casing up-stand

The upstand is the height of the casing above ground level in meters. The height depends on local groundwater and surface water circumstances. The piezometer number is scrapped onto the side of the casing near the cap as with time the writing on the cap wears off. Upstands vary from 0.3 to 1.0m in height. The convention is allow a higher upstand for those piezometers positioned at a higher level.

Casing

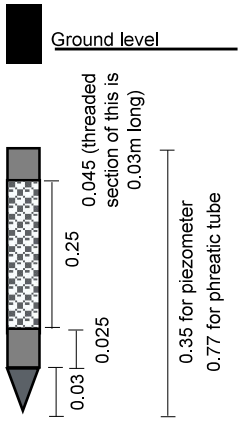
The casing is black or dark grey coloured, flush-threaded, uPVC. The OD is 26.80mm and the ID is 18.40. The casing is flush-threaded to the piezometer tip.

Tube or Piezometer tip

This section is installed opposite the required formation. There are two sections to the piezometer tip. The inner tube section is 18.40mm ID, white in colour and involves extruded microporous polyethylene. The outer comprises grey or black coloured uPVC with 10 x 0.013m diameter holes per 0.10m of piezometer tip. Therefore the surface area exposed to the formation (peat) is small. The piezometer tube tip is flush-threaded, either male or female, to the piezometer casing. Threaded part is 0.03m long. The phreatic tube tip is longer than the piezometer tube tip to allow for greater water level fluctuations.

Drive cone

This is grey coloured, solid, uPVC, pushed or screwed into the tube or piezometer tip. No glue has been used. If the ground is soft, a push-in button cap may be used instead of a drive cone.



NOTES:-

The phreatic tubes are pushed by hand into the peat. The piezometers are pushed or driven into the peat and mineral soil after a narrow diameter hole has been formed using overburden drilling (Cobra or Percussion Window Sampler) / coring equipment (Gouge corer). The tubes and piezometers have three main functions: water table measurements, water sampling, permeability measurements.

Appendix E

Inchamore WF, Co. Cork

SI Trial Pit Photos