

PEAT STABILITY RISK ASSESSMENT
For
Gortloughra Windfarm, Co. Cork

Consultants:
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Revision 2

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1. Introduction

Garne Geotechnical Services, working in partnership with EcoQuest Environmental, were engaged by Jennings O'Donovan and Partners Limited, Consulting Engineers, to undertake a Peat Stability Risk Assessment (PSRA), for a proposed wind farm located at Gortloughra, County Cork. This chapter describes the pre-existing land, soils and geology and the results of the site reconnaissance surveys along with other data considered relevant to the current and future stability of the proposed development site.

1.1. Statement of Authority

All fieldwork and reporting for this PSRA was undertaken by Andrew Garne BSc., MSc., PGeo. Andrew is an independent engineering geologist who specialises in geological, geotechnical and hydrogeological impact assessments. He is a Full Member of the Institute of Geologists of Ireland (IGI) and is a Registered Professional Geologist (PGeo). He has over 30 years of professional experience including over 25 years in Ireland and has worked as a geotechnical consultant on many geological, hydrogeological and environmental projects including numerous wind farms, road projects, landfills, quarries, water schemes and other infrastructure projects. He has extensive experience in undertaking land, soils and geology chapters for Environmental Impact Assessments along with PSRA's for numerous sites including several proposed upland wind farm sites in Ireland.

1.2. Scope of Assessment

The scope and objectives of this assessment undertaken includes the following:

- Prepare a baseline desk-based study of the land, soils and geology conditions of the existing environment surrounding the proposed development site based on a desk study analysis and site investigations.
- Undertake a programme of fieldwork surveys which includes extensive peat probes, hand shear vane tests, peat gouge cores, slope measurements, drainage and geomorphological observations.
- Undertake a Peat Stability Risk Assessment (PSRA) for the infrastructure on the site (turbine bases, hardstands, access tracks, substation, met mast, borrow pit, site compound, grid connection route), based on the results of the fieldwork and desk-based surveys.

1.3. Methodology

An investigation of the existing land, soils and geology characteristics of the study area was conducted by undertaking a desk-based study, consultation with relevant authorities and site-based fieldwork surveys. All data collected has been interpreted to establish the baseline conditions within the study area and the significance of potential adverse effects have been assessed. These elements are discussed in detail in the following sections.

1.4. Applicable Legislation

The PSRA is prepared in accordance with the requirements of European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the 'EIA Directive') as amended by Directive 2014/52/EU.

1.5. Relevant Guidelines

This PSRA has been prepared with cognisance to the following guidelines:

- Department of Housing, Planning and Local Government – Draft Revised Wind Energy Guidelines, 2019;
- Environmental Protection Agency – Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, 2022;

- Institute of Geologists Ireland – Guidelines for Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements, 2013;
- National Roads Authority (2005): Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes; and,
- Peat Landslide Hazard and Risk Assessments. Best Practice Guide for Proposed Electricity Generation Developments. Second Edition, April 2017. Scottish Government.

2. Desk Study

A desk study consisting of a review of all available datasets, information, and literature resources relevant to the Site has been completed. During the desk study and initial phases of the fieldwork, the Study Area comprised a much larger area than the current red line boundary. The initial Study Area is demonstrated by the spread of peat probes undertaken as part of the PSRA (see Figure 5). The desk study was undertaken for this area plus a narrow corridor which included the two Grid Route Options along with the TDR.

The desk study comprised a review of all available datasets, information, and literature resources relevant to the site was initially undertaken in June 2021 and updated in July 2023 and November 2024. The most current datasets and information maintained by the Environment Protection Agency (EPA) and Geological Survey of Ireland (GSI) were reviewed to assist in establishing the land, soil and geological characterisation of the site.

Relevant documents and datasets used to assist in compiling the desk study included EPA land and soils data, topography maps and GSI geological data. The following full list of sources and information were utilised to establish the baseline environment:

- EPA Map Viewer, Land, Soil and Geology features ¹
- Geological Survey of Ireland – 1:25,000 Field Mapping Sheets
- General Soil Map of Ireland 2nd edition ²
- Ordnance Survey Ireland, Map Viewer ³
- National Parks and Wildlife Service (NPWS), Protected Sites Map-Viewer ⁴
- The Geological Survey of Ireland (GSI), public data viewer ⁵
- Myplan.ie; National Planning Application Map Viewer⁶
- Met Éireann Meteorological Data ⁷
- Department of Housing, Planning and Local Government, EIA Portal⁸

2.1. Existing Environment

The proposed wind farm Development is located to the east of the townland of Gortloughra, approximately 9 kilometres north-west of Kealkill in west County Cork at the southern extent of the Shehy Mountains. The site is broadly split into a northern and a southern portion which are divided by the highest peak on the site, Shehy More at 546m OD (metres above Ordnance Datum).

The Site is located across approximately 117.21 hectares of land which is predominantly mountain blanket bog (>200m in altitude). The southern extent of the proposed site is located within the townland of Shehy Beg. To the south and south-east of the site are the townlands of Shanacrane West and Tooren respectively.

To the north of the Site there are additional areas of blanket bog, forestry, Douce Mountain, Lough Nambrackderg, pre-existing Shehy More Windfarm and the townlands of Shehy More, Cloghboola, Derryriordane South and Inchiroe. To the east of the site is the townland of Coolmountain and additional areas of forestry.

¹ <https://gis.epa.ie/EPAMaps>

² <https://www.teagasc.ie/media/website/environment/soil/General-Map.pdf>

³ <https://www.arcgis.com/apps/webappviewer/index.html?id=3ae19cc156bf4706a929304bf8fcc4f6>

⁴ <https://www.npws.ie/protected-sites>

⁵ <https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx>

⁶ <https://www.myplan.ie/national-planning-application-map-viewer/>

⁷ <https://www.met.ie/climate/available-data/historical-data>

⁸ <https://www.gov.ie/en/publication/9f9e7-eia-portal/?referrer=https://www.housing.gov.ie/planning/environmental-assessment/environmental-impact-assessment-eia/eia-portal>

To the west and south-west of the site are the townlands of Gortloughra, Coomclogh, Glanycarney, the Cousane Gap and the R585 road. The wider area surrounding the proposed site is rural in nature with low intensity agriculture in the form of pastoral grassland, peat harvesting and commercial forestry plantations being the predominant land use.

2.2. Superficial Geology

The desk study on soils includes a detailed review of published literature and datasets on soils, subsoils and minerals pertaining to the site. From information obtained from the Geological Survey of Ireland (GSI) and Environmental Protection Agency (EPA) websites, the following soils are understood to exist on the site.

Shallow bedrock underlies the majority of the site (based on the GSI Quaternary and Groundwater Vulnerability mapping). The following is a summary of the solid and superficial geology of the Site:

- The GSI website shows that shallow bedrock underlies the majority (approximately 80%) of the main Site area and underlies most of the infrastructure on the Site;
- Glacial till derived from the underlying sandstone bedrock underlies less than 10% of the main Site area, with the majority of the site underlain by shallow bedrock with some superficial peat;
- Blanket peat underlies around 10% of the main site area, predominantly along a plateau near the centre of the site; and,
- Glacial till underlies around 50% of the two possible grid connection routes from the main Site down to the substations near Dunmanway and Carrigdangan. The remainder of the grid connection route is underlain by shallow bedrock (c. 45%) or shallow Blanket Peat (c. 5%).

An overview of the bedrock geology for the main site is shown in **Figure 1**. An overview of the quaternary geology for the main site is shown in **Figure 2**.

2.3. Bedrock Geology

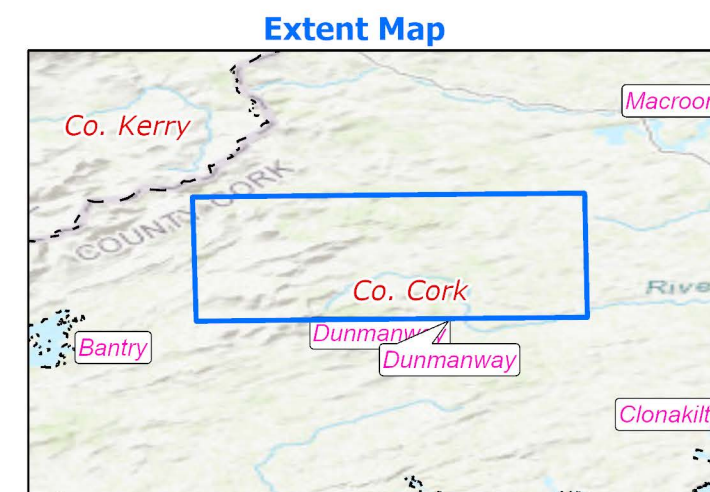
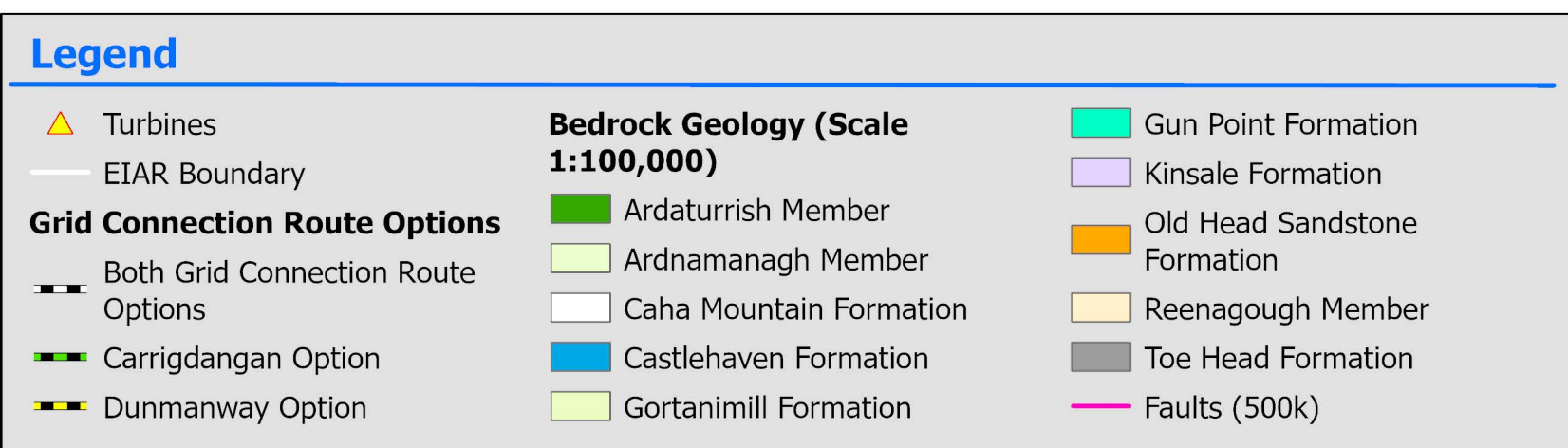
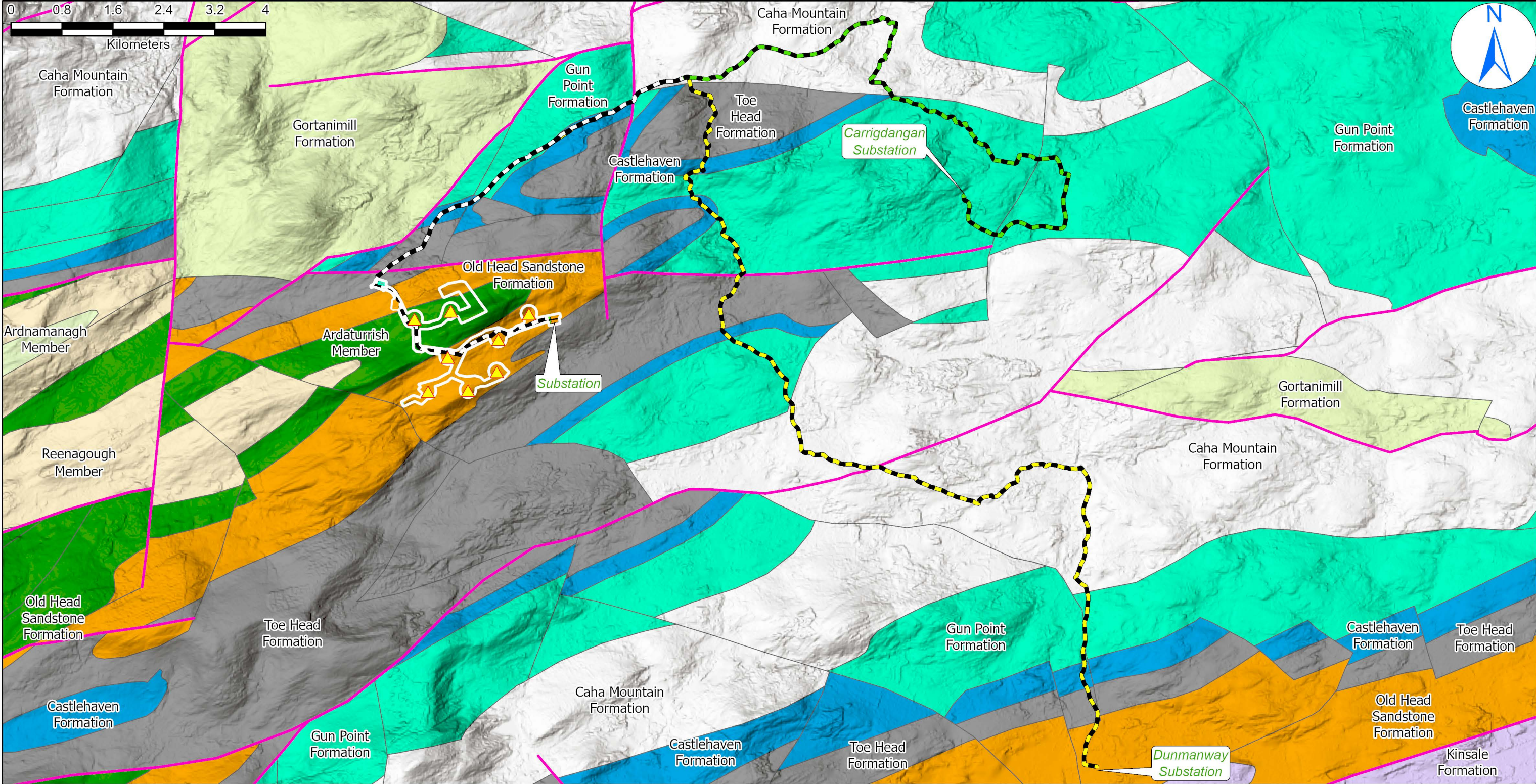
The GSI maps and website for this area shows that the majority of the main site is underlain by Palaeozoic age (Carboniferous and Devonian) mudstone, sandstone and minor limestones of the Old Head Sandstone Formation and the Ardaturrish Member, as shown in **Figure 1**. It should be noted that some outcrops of bedrock are present throughout the site, particularly within the upland (central) parts of the site.

Structurally, the west, north and east of the main site are bounded by east-west trending faults which run close to the northern EIAR boundary. An anticlinal fold axis trends east-west beyond the northern extent of the Site. Due to the tectonic history of Ireland, these features are common throughout the country and particularly within this part of Ireland.

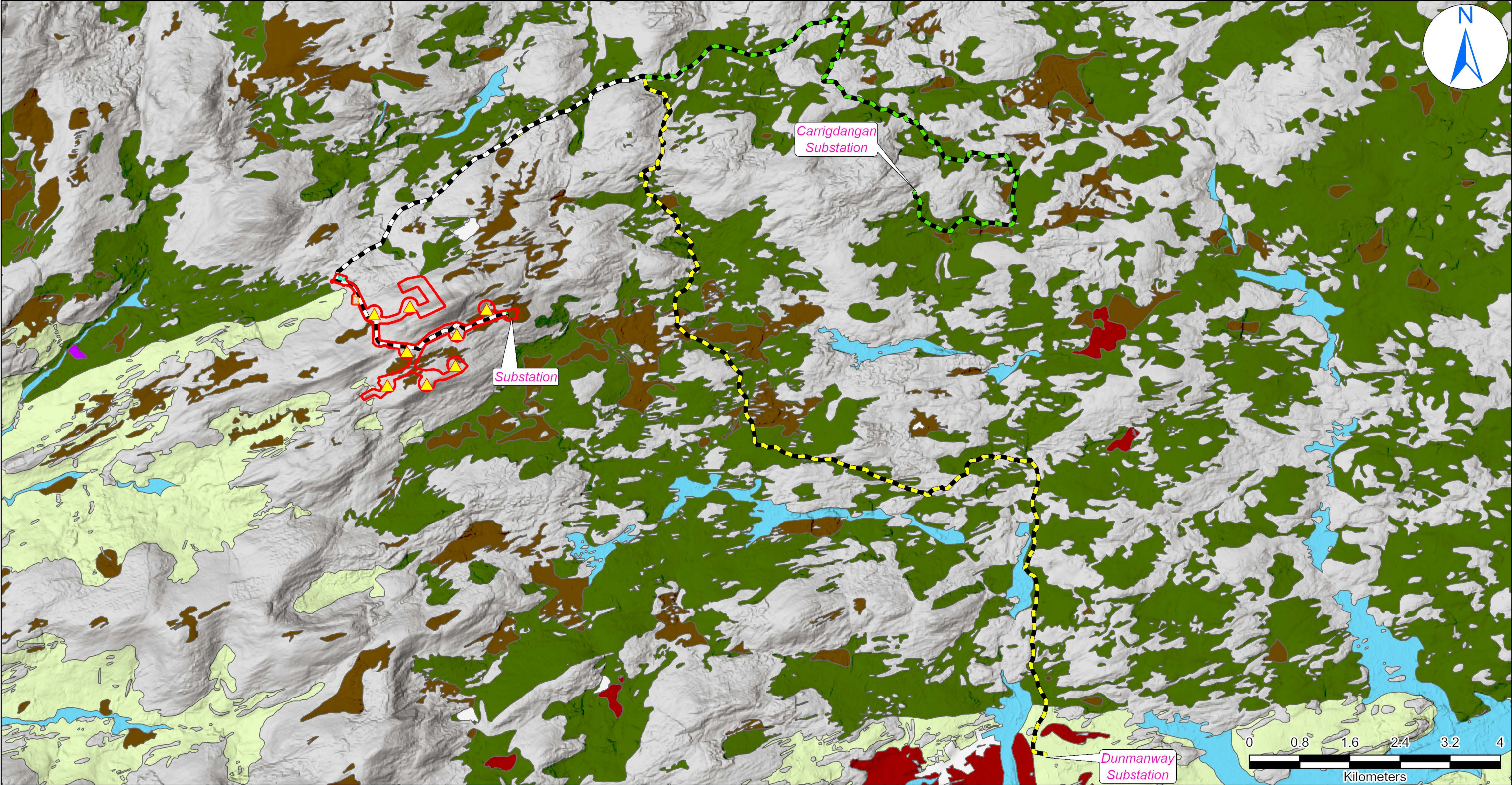
2.4. Landslide Susceptibility

The Geological Survey of Ireland (GSI) maintains a database of known landslides in Ireland. The database records no landslides on or adjacent to the site. The nearest recorded landslide is shown approximately 3.5km south of the main site where a landslide is recorded as shown in **Figure 3**. The landslide was recorded at Goulacullin in 2001 and is recorded as a rock fall over a 10 m stretch of road.

The GSI also maintains a Landslide Susceptibility Map for Ireland. Although some statistical approaches were also explored, the literature research and the requirement for a methodology that could be applied to Ireland as a whole coupled with the uncertainty as to how many additional landslides would be found by extending the inventory lead to a methodology known as the Unique Condition Unit (UCU) approach. As the name suggests, UCUs are parcels of terrain where a set of attributes are combined in a unique way. In the context of landslide susceptibility mapping, the attributes being considered are slope, soil type and an index which is a measure of overland flow concentration from intense rainfall events. The latter parameter has been called the Topographic Flow Index (TFI). As shown in **Figure 4**, the landslide susceptibility for the site has been categorised by the GSI as Low to High.



Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Bedrock Geology (100K)	
Spatial Reference Name: IREN95 Irish Transverse Mercator	
Figure Number: 1	Page Size: A3
Date Exported: 18/11/2024	Scale: 1:60,000
Revision Number: 1	Prepared By: DP
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Legend

Turbines

EIAR Boundary

Grid Connection Route Options

Both Grid Connection Route Options

Dunmanway Option

Carrigdangan Option

Soil Susceptibility

Alluvium undifferentiated gravelly

Blanket peat

Gravels derived from Devonian and Carboniferous sandstones

Sandstone sands and gravels Devonian

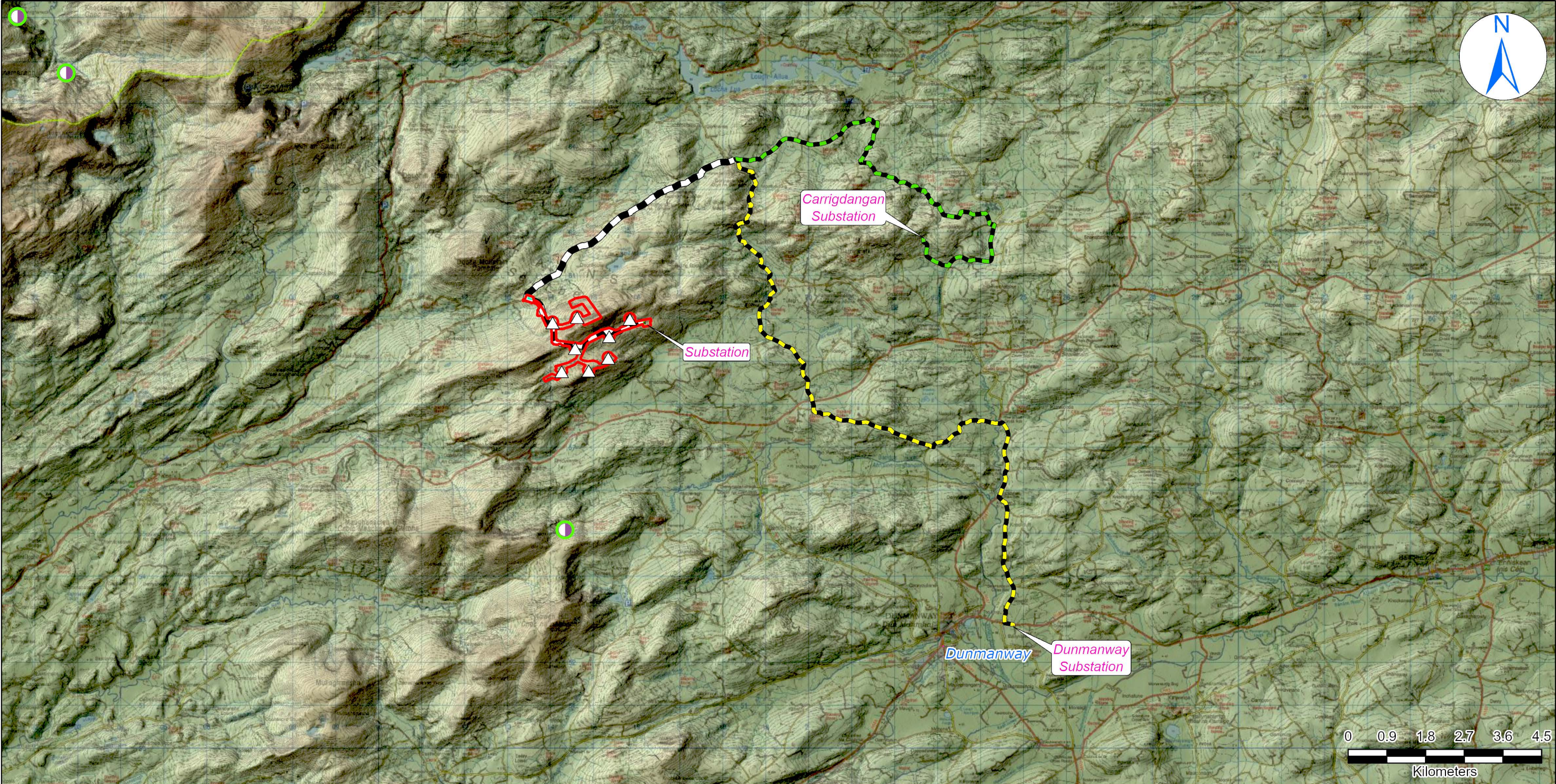
Bedrock at Surface

Sandstone and shales till Devonian/Carboniferous

Sandstone till Devonian

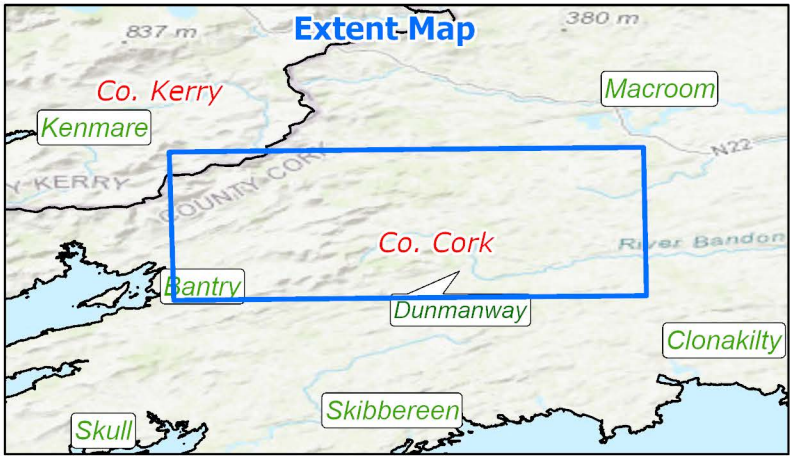
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Project: Gortloughra Wind Farm	
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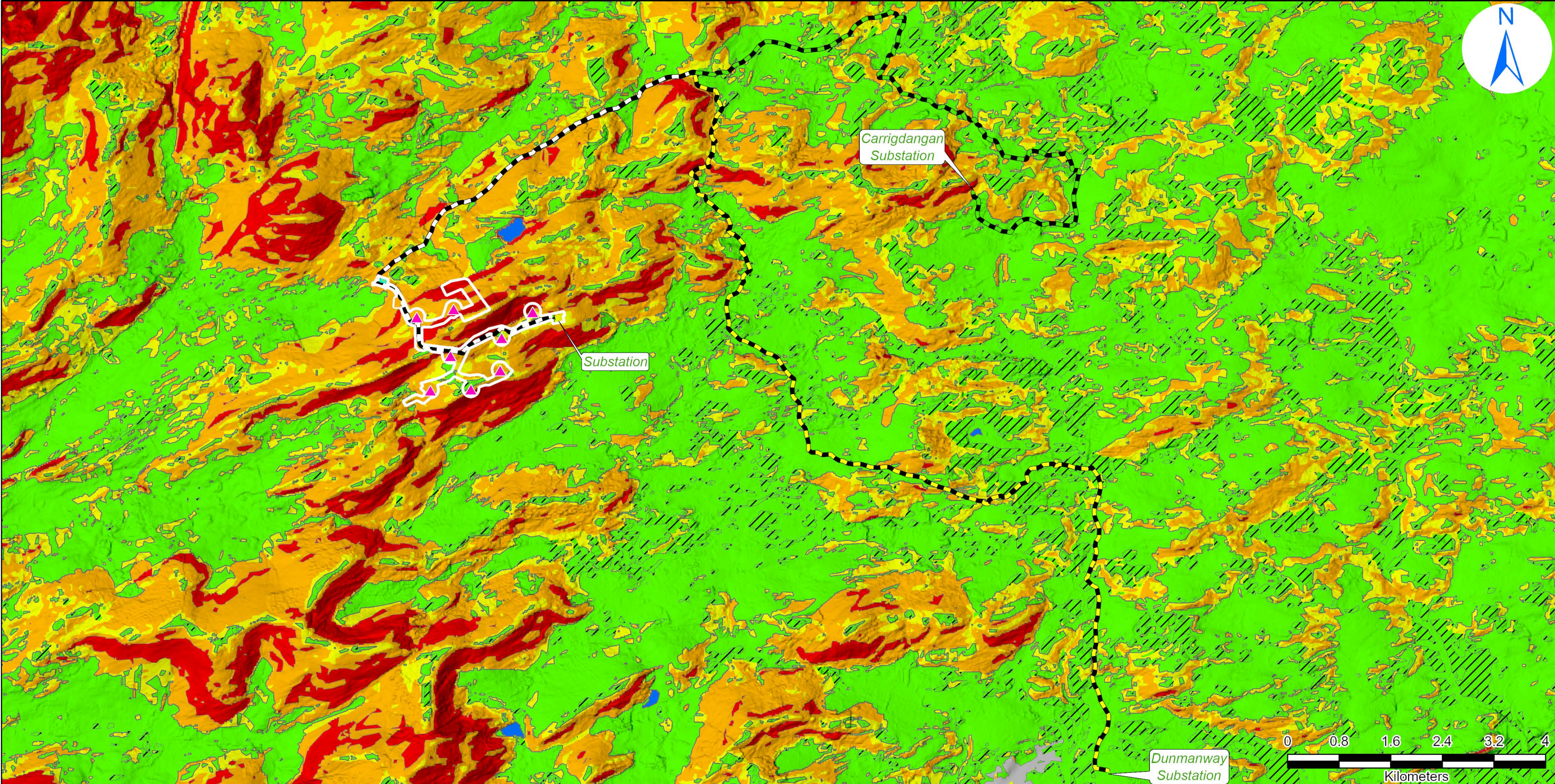


Legend

- Previously Recorded Landslide Events
- Turbines
- EIAR Boundary
- Both Grid Connection Route Options
- Carrigdangan Option
- Dunmanway Option



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Map Title: Previously Recorded Landslide Events	
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Legend

▲ Turbines

— EIAR Boundary

Grid Connection Route Options

Both Grid Connection Route Options

Carrigdangan Option

Dunmanway Option

Landslide Susceptibility Classification

High

Low

Low (inferred)

Made

Moderately High

Moderately Low

Moderately Low (inferred)

Water

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Project: Gortloughra Wind Farm	
Map Title: Geological Survey of Ireland (GSI) Landslide Susceptibility Mapping With Hillshade.	
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Figure Number: 4	Page Size: A3
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Airbus,USGS,NGA,NASA,CGIAR,NCEAS,NLS,OS,NMA,Geodatastyrelsen,GSA,GSI and the GIS User Community, Esri, HERE, Garmin, FAO, USGS, NGA.

2.5. Rainfall

As discussed in **Section 9.3.4** of the EIAR, the site-specific average rainfall for the site is estimated to be approximately 2,237mm per year based on the average of four 1km grid squares provided by Met Eireann.

2.6. Desk Study Summary

The soils present on the site comprise predominantly topsoil overlying sandstone or mudstone bedrock at generally shallow depths. Due to the presence of peat on the site, it is considered that the potential for a landslide hazard exists at the proposed site in accordance with the Scottish Executive Guidelines.

The GSI online database shows no recorded landslides within or near the site. The nearest recorded landslide is shown approximately 3km south of the main site where a rockfall was recorded at the location shown in **Figure 3**. Aerial photographs of the site and surrounding area also show no evidence of historic landslips and no evidence of peat fractures.

3. Field Surveys

A field investigation to inform the baseline geological conditions of the site was undertaken by Andrew Garne BSc, MSc., PGeo of Garne Geotechnical Services. The field investigations consisted of the following:

- A walkover survey of the site to identify and record geological features was undertaken to identify rock outcrops, topography/slopes, areas of unstable ground and surface water features.
- Peat probes, hand vanes and gouge cores were undertaken at, and adjacent to, the turbine locations, hardstands, access tracks and substation, to determine peat depths, peat composition, slope angles and peat shear strengths across the site. Parts of the proposed grid connection route and proposed turbine delivery route were also probed to confirm depths of peat.
- Laboratory testing of peat samples for moisture content and organic carbon content.

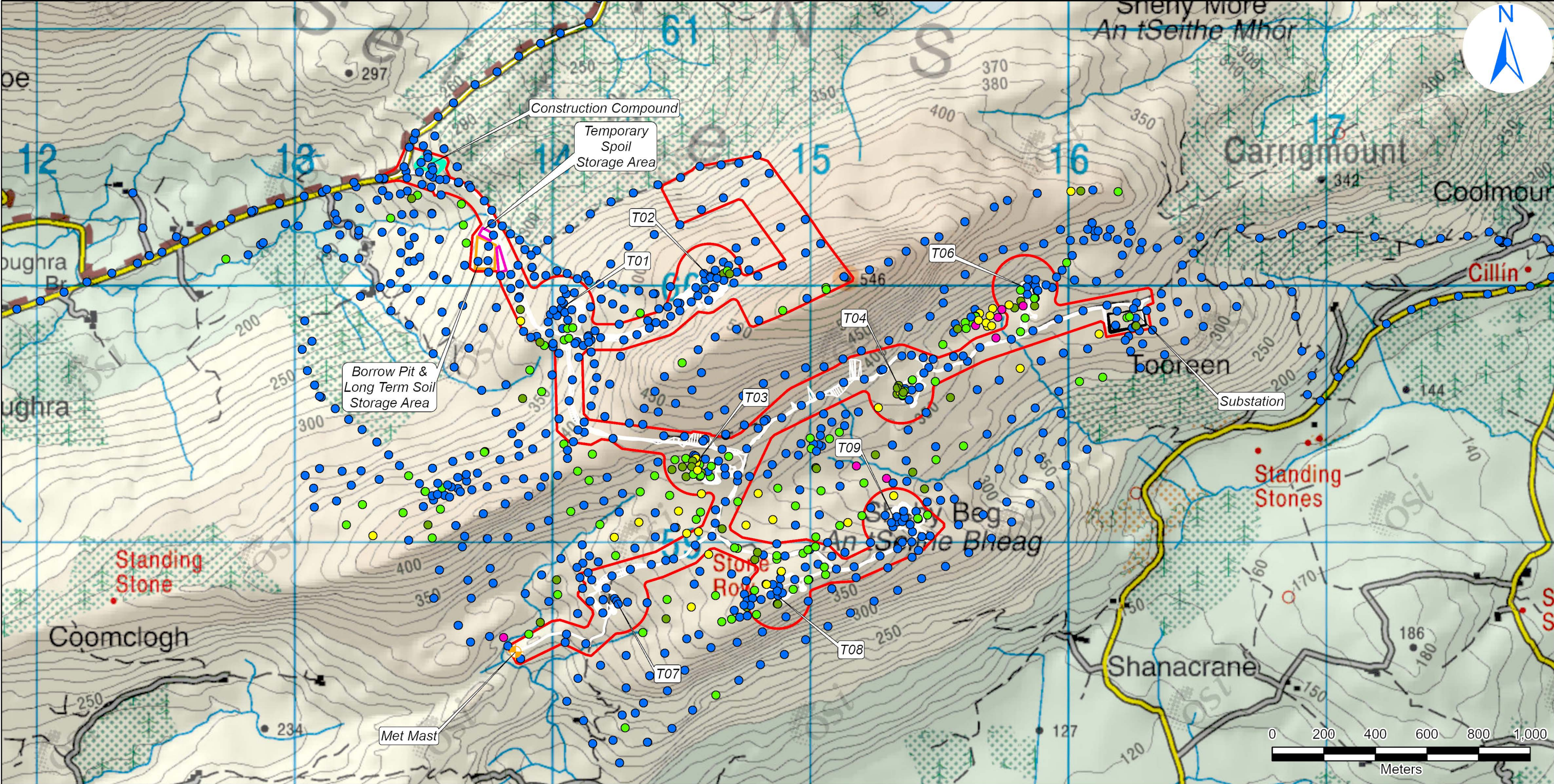
Upon completion of the field surveys, the data collected was reviewed and imported into ArcGIS Pro software for further analysis. The field data collected was overlain against the publicly available datasets listed in Section 2 such as those from the EPA, GSI and OSI. The results of the field investigations are presented in **Appendix 1**.

3.1. Site Reconnaissance and Preliminary Ground Investigations

An initial Site walkover survey was carried out by Garne Geotechnical Services from 14th to 15th June 2021. Additional walkover surveys were made on 28th June 2021, 8th to 10th April 2022, 20th December 2022, 9th June 2023, 1st July 2023, 13th April 2024 and 19th April 2024 following layout design changes. The walkovers included peat gouge cores taken at both the turbine base and substation locations.

A total of 354 peat probes, 8 gouge cores, 9 hand-dug trial holes and 98 hand-held shear vane tests were undertaken within the EIAR red-line boundary, at turbine bases, at turbine hardstands, at the proposed substation location and along proposed access tracks at nominal 100m centres. A further 1112 probes were undertaken outside the current EIAR boundary and along the proposed grid connection route. Measurements of slope were also made using a hand-held inclinometer at each of the shear vane test locations. The approximate locations and peat probe depths for the majority of probes undertaken both within and outside the red-line boundary are shown in **Figure 5**. The location of the probes undertaken both within and outside the red-line boundary and along parts of the grid routes are also shown in Figures 6 to 15. Details of each probe location undertaken both within and outside the red-line boundary are also presented in **Appendix 1**.

During the walkovers, observations were also made of the land use, peat depth, drainage features, geomorphology, slope, and any other features that could affect slope stability. The walkover and ground investigations found peat up to 3.8m in depth in places with an average probe depth of 0.34m, moderate slopes (1 to 30° with an average slope of 6°) and poor to moderately well drained ground.



Legend

▲ Turbines

— EIAR Boundary

— Substation

— Site Compound

▭ Borrow Pit & Long Term Soil Storage Area

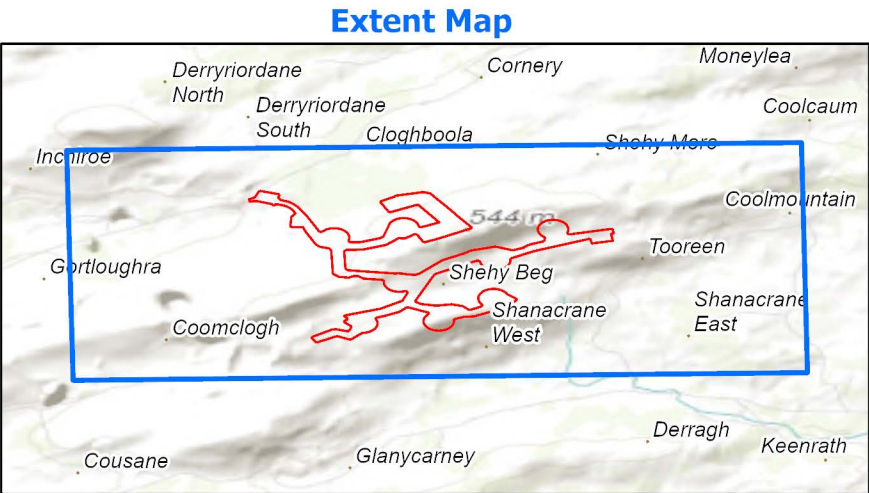
▭ Temporary Spoil Storage Locations

⬢ Met Mast

— Access Road Layout & Hardstand Areas

Peat and Soil Depths Rounds 1 - 8

● ≤ 0.5m
● 0.6 - 1m
● 1.1 - 1.5m
● 1.6 - 2.7m
● 2.6 - 3.8m



Client: Jennings O'Donovan & Partners	
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Map Title: Peat and Soil Depths	
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3.2. Peat Strength and Description

Hand shear vane tests were carried out during the site walkovers using a Geonor H-60 shear vane to provide indicative results for the in-situ shear strength of the peat at preliminary investigation stage. The uncorrected shear strength values recorded ranged from 10kPa to 50kPa with an average of 22kPa. To account for the fibrous and heterogeneous nature of peat, a correction factor of 0.5 is recommended (Mesri & Ajlouni, 2007). The corrected peat strengths therefore range from 5kPa to 25kPa, with an average of 11kPa.

The peat was observed and described from samples recovered from a gouge core and from hand-dug trial holes. The peat was typically described as soft brown pseudo-fibrous peat with a Von Post Classification of H6 (pseudo-fibrous) and a typical moisture content of B3 (Moist).

3.3. Laboratory Test Results

A number of peat samples were recovered from the turbine base and substation locations using a gouge core and/or hand-dug trial pit and sent to an accredited laboratory for moisture content and organic carbon content analysis. The results of the testing are presented in **Appendix 2** of this report. Moisture contents of between 219% (damp, B2) and 918% (moist, B3) were recorded in laboratory tests. Carbon contents of 25% to 56% were also recorded.

3.4. Site Topography

The topography of the site is gently sloping with an average slope of about 6° (as measured on-site using a hand-held clinometer) and with slopes locally recorded up to 30° at some probe locations. The turbines are generally located on areas of moderate slope (typically less than 10°) and with low peat depths (typically less than 0.5m). Due to the slope of the ground, little ponding was observed, however most of the peat was saturated during the field surveys.

The Site forms part of the southern fringes of the Shehy Mountains and is therefore generally elevated in nature. The highest peak at the site is Shehy More (546 m OD) which broadly divides the northern and southern sections of the Site. To the north of the Site is Douce Mountain (474 m OD), in between Douce Mountain and Shehy More is a valley through which the L8544 local road traverses and which forms part of the northernmost extent of the Site. The northern portion of the site ranges in elevation from 200 m OD with increasing steeper inclines existing to the south as far as the summit of Shehy More at 546 m OD.

The southern face of Shehy More is also steep with elevations reducing rapidly from 546 m OD to 400 m OD across an approximate distance of 300m. The southernmost extent of the Site ranges in elevation from approximately 250 – 300 m OD. Further south beyond the EIAR boundary the topography is generally flat in the townland of Shanecrane East at an elevation of approximately 120 m. To the west of the Site beyond the EIAR boundary is Carrigmount with an elevation of 342 m OD. To the east and south-east of the Site there are peaks ranging in elevation from 312 m OD, 332 m OD and 375 m OD and the Cousane Gap through which the R585 regional road traverses.

4. Peat Stability Risk Assessment (PSRA)

The fieldwork for the Peat Stability Risk Assessment (PSRA) was carried out by Senior Engineering Geologist Mr Andrew Garne BSc., MSc., PGeo. between June 2021 and April 2024, with particular reference to the following reports, papers and guidance documents.

Full references are given in the bibliography (Section 6):

- Peat Landslide Hazard and Risk Assessments (2017)
- General Soil Map of Ireland (1980)
- Wind Farm Planning Guidelines (2006)
- IWEA Best Practice Guidelines for the Irish Wind Energy Industry (2012)
- IGI – Geology in Environmental Impact Statements (2013)
- Development on Unstable Land (1990)
- Landslides in Ireland (2006)
- Guidelines for the risk management of peat slips on the construction of low volume/low cost roads over peat (2006)
- Hydrological controls of surficial mass movements in peat (2004)
- Slope Instability in Ireland with particular reference to peat failures (2009)
- Peat slope failure in Ireland (2008)
- Eurocode 7: Geotechnical Design (2005)

The primary elements of the PSRA included:

1. Undertaking a desk study assessment to obtain information available on existing geological conditions at the proposed site location.
2. Undertaking a site walkover to identify geological constraints across the site.
3. Undertaking a ground investigation including peat probes, gouge cores and shear vanes.
4. Preparation of a peat stability risk assessment report.

4.1. Qualitative Slope Stability Assessment

A qualitative slope stability assessment was made for each of the turbine and substation locations. Table 1 below outlines the contributing factors and hazard scoring system used in the assessment (after MacCulloch, 2006).

Table 1: Qualitative Hazard Scoring System

Contributing Factor	Method of Assessment	Value/Indicator	Probability of contributing to peat movement	Hazard Score
Moisture Content of Peat	Visual or Lab	B1 (dry)	Negligible	1
		B2 (damp) <500%	Unlikely	2
		B3 (moist) 500-1000%	Probable	3
		B4 (wet) 1000-2000%	Likely	4
		B5 (very wet) >2000%	Very likely	5
Degree of Humification	Visual (Von Post Scale)	H1-H2 (fibrous, clear water)	Negligible	1
		H3-H4 (fibrous, brown water)	Unlikely	2
		H5-H6 (pseudo-fibrous)	Probable	3
		H7-H8 (amorphous, some fibres)	Likely	4
		H9-H10 (amorphous paste)	Very likely	5
Peat Depth	Peat probes and Gouge Cores	0 - 0.5m	Negligible	1
		0.6 - 1.0m	Unlikely	2
		1.1 - 1.5m	Probable	3
		1.6 - 2.0m	Likely	4
		>2.1m	Very likely	5
Slope Angle	Measured with inclinometer	0 to 3	Negligible	1
		4 to 9	Unlikely	2
		10 to 15	Probable	3
		16 to 20	Likely	4
		20 +	Very likely	5
Cracking or evidence of slips	Visual	None evident	Negligible	1
		Few	Unlikely	2
		Frequent	Probable	3
		Many	Likely	4
		Continuous/significant	Very likely	5
Shear Strength	Hand Vane	>21kPa	Negligible	1
		16-20kPa	Unlikely	2
		11-15kPa	Probable	3
		6-10kPa	Likely	4
		0-5kPa	Very likely	5
Surface Hydrology (gulleys, channels hags, pools, flushes, water courses)	Visual	None evident	Negligible	1
		Few	Unlikely	2
		Frequent	Probable	3
		Many	Likely	4
		Continuous/significant	Very likely	5
Weather	Weather Records	Previous very dry period in excess of 5yrs	Negligible	1
		Previous very dry period within 4 - 5yrs	Unlikely	2
		Previous very dry period within 3 - 4yrs	Probable	3
		Previous very dry period within 2 - 3yrs	Likely	4
		Previous very dry period within 1 - 2yrs	Very likely	5

In accordance with the recommendations of the Scottish Executive, peat depths of 0.5m or less are generally considered to be topsoil and/or vegetative acrotelm and are therefore considered to represent a negligible risk of peat stability. Accordingly, only two locations (T03 and T04) are deemed to have a characteristic (typical) peat depth in excess of 0.5m. However, in order to present a more conservative approach, the maximum peat depth recorded at each location is used for this approach, hence six locations show peat depths in excess of 0.5m (hazard score ranked as between 2 and 5 taken from Table 1). Table 2 shows the results of the assessment.

Table 2: Qualitative Hazard Assessment Results

Contributing Factor	T01	T02	T03	T04	T06	T07	T08	T09	Compound	Sub-Station
Moisture Content	1	1	3	3	2	1	2	2	1	2
Degree of Humification	n/a	n/a	3	3	3	n/a	4	4	n/a	3
Max Probe Depth	1	1	5	4	5	1	2	2	1	3
Typical Slope Angle	3	3	2	1	1	3	1	2	3	2
Cracking or evidence of slips	1	1	1	1	1	1	1	1	1	1
Shear Strength	n/a	n/a	2	3	2	n/a	2	2	n/a	2
Surface Hydrology	1	1	1	1	1	1	1	1	1	1
Weather	1	1	1	1	1	1	1	1	1	1
Hazard Score	n/a	n/a	18	17	16	n/a	14	15	n/a	15

Combined Hazard Score	Probability
32 to 40	Very High
26 to 31	High
20 to 25	Medium
14 to 19	Low
8 to 13	Very Low

The table shows that six of the ten locations assessed contain a maximum thickness of peat greater than 0.5m. It should be noted that the maximum recorded depth as outliers may represent localised deep pockets which would not affect the overall stability of the area.

The qualitative slope stability assessment suggests that the risk of slope failure at these six locations is considered to be low while the risk of slope failure at the remaining locations is considered to be negligible. This assessment is in contradiction to the GSI landslide susceptibility mapping which shows several turbine locations to be within moderate to high landslide susceptibility. Several of the proposed access tracks also pass through areas of high or moderately high susceptibility according to the GSI landslide susceptibility mapping.

4.2. Quantitative Slope Stability Analysis

Total stress analyses for translational slides within the peat have been undertaken in accordance with the principles of Eurocode 7-1: Geotechnical Design (IS EN 1997-1) Design Approach 3⁽¹²⁾. This design approach is considered to be the most logical approach for slope stability analysis as it includes partial factors for both material properties and variable loads (for example traffic loads).

In accordance with the principles of the Eurocode, rather than using a global factor of safety as per previous design codes, partial factors are applied to the chosen characteristic values to obtain design values. Actions (influences) are multiplied by the partial factors, while resistances are divided by the partial factors. As discussed previously, peat depths of less than 0.5m are normally considered to represent a negligible risk of instability (due to being predominantly topsoil or vegetative acrotelm) and have therefore not been included in the Safety Ratio calculations.

Table 3 shows the partial factors that have been applied to the characteristic values to give the design values used in the slope stability analyses.

Table 3: IS EN 1997-1 Partial Factors Used to Derive Design Parameters

Set	Partial Factor		Parameter
M2	γ_{cu}	1.4	Corrected undrained shear strength
	γ_γ	1.0	Soil Density
A2	γ_Q	1.3	Traffic Loading (variable unfavourable)
R3	$\gamma_{R,e}$	1.0	Earth Resistance

In accordance with Eurocode 7, geotechnical checks must be carried out to ensure that the resistance preventing a slide is greater than or equal to the actions which cause a slide, i.e.:

$$E_d \leq R_d$$

Where;

E_d = Sum of design actions

R_d = Sum of design resistances

In order to verify that this condition is met, the following formula has been applied, using the design values obtained using the partial factors given in **Table 3**. The resulting “safety ratio” must be equal or greater than 1.0 in order to verify that the above condition is met. i.e.:

$$\frac{C_u}{\gamma z \cos \beta \sin \beta} = \text{or} > 1.0$$

Where;

C_u = corrected shear strength of peat (value obtained from hand shear vane)

γ = density of peat (normally assumed to be 1.0 mg/m³)

z = thickness of peat layer in metres (measured from probes/gouge core)

β = slope angle at turbine location (from clinometer readings)

4.2.1. Limitations of Slope Stability Analysis

The application of traditional stability analysis such as this should be used with caution due to the compressibility of peat and because the analysis does not account for the fibrous nature of the peat. Cognisant of the organic and highly variable nature of peat, uncertainties related to the directional dependence on which the strength of peat is based, the reliability of traditional methods of field shear strength measurement, presence of gas within the peat and the combination of factors (some not quantifiable or applicable in a calculation matrix) triggering slope failure, the failure mechanisms being employed in the traditional analysis may not necessarily be representative of in-situ failure mechanisms.

Despite the limitations outlined above, this method of slope analysis is still considered useful as an indicator of possible areas of instability and its use is in accordance with current industry best practice.

4.2.2. Shear Strength Values

The shear strength values were obtained using a Geonor H-60 hand-held shear vane with a correction factor of 0.5 based on published correlation data. This correction factor is considered quite conservative and is therefore appropriate for preliminary analysis of the slope sections for preliminary design purposes.

Shear strength at the base of a peat mass is often the governing factor in peat stability and analysis; therefore, shear strength values chosen for the stability analysis are based on a characteristic value representative of the shear strength of the peat recorded generally within 0.5m of the base of the peat body in the vicinity of the turbines, unless this is significantly higher than the typical shear strengths recorded at other depths, in which case the lower value is normally used.

Based on the field vane shear strength data, corrected shear strength values of 5kPa to 25kPa (average 11kPa) were determined as the characteristic values for the slope stability analysis. No differentiation between the upper acrotelm (where present) and lower catotelm layers has been assumed for the purpose of the stability analysis in order to provide a more conservative analysis.

4.3. Slope Stability Analysis Results

The calculated in-situ safety ratios at the proposed turbine/hardstanding, site compound and substation locations are presented in **Table 4** along with the maximum peat depth, corrected measured shear strength and typical slope angle for the location. As discussed previously, a ratio of less than 1.0 (shaded red in **Tables 4** and **5**) indicates that the slope currently has an inadequate factor of safety against failure and therefore is potentially unstable in the long term without the implementation of suitable mitigation measures. Ratios of 1.0 or greater indicate an adequate factor of safety against failure and indicate that the location is considered stable.

Figures 6 to 10 show the locations for each of the slope stability calculations. These calculations are based on the current ground and do not include any surcharge loadings. The results show that no areas of the site have been assessed as being of elevated risk (indicated by red dots).

Figures 11 to 15 show the locations for each of the slope stability calculations with the addition of a 20kPa surcharge. This load is equivalent of stockpiling approximately 2m depth of peat, or a typical loading from a “floating road” with construction traffic. The calculations now show 7 locations of elevated risk within the EIAR red line boundary (indicated by red dots), being located approximately 150m west and 100m south T01, 75m northeast of T02 (Figure 11) and 150m north of T08 (Figure 14).

Table 4: Slope Stability Analysis Results – Turbine/Hardstandings, Substation and Compound

Location	Typical Measured Slope°	Max Probe Depth (m)	Measured Cu	Corrected Cu	Factored Cu	Safety Ratio	Safety Ratio +20kPa
Substation	5	1.1	25	12.5	8.9	7.8	2.3
T01	10	0.2	n/a	n/a	n/a	n/a	n/a
T02	15	0.4	n/a	n/a	n/a	n/a	n/a
T03	5	2.9	18	9	6.4	7.1	3.5
T04	3	1.7	20	10	7.1	20.5	5.7
T06	3	3.8	16	8	5.7	8.6	5.1
T07	10	0.3	n/a	n/a	n/a	n/a	n/a
T08	3	0.7	20	10	7.1	19.5	4.1
T09	5	0.7	30	15	10.7	17.6	3.7
Compound	10	0.2	n/a	n/a	n/a	n/a	n/a

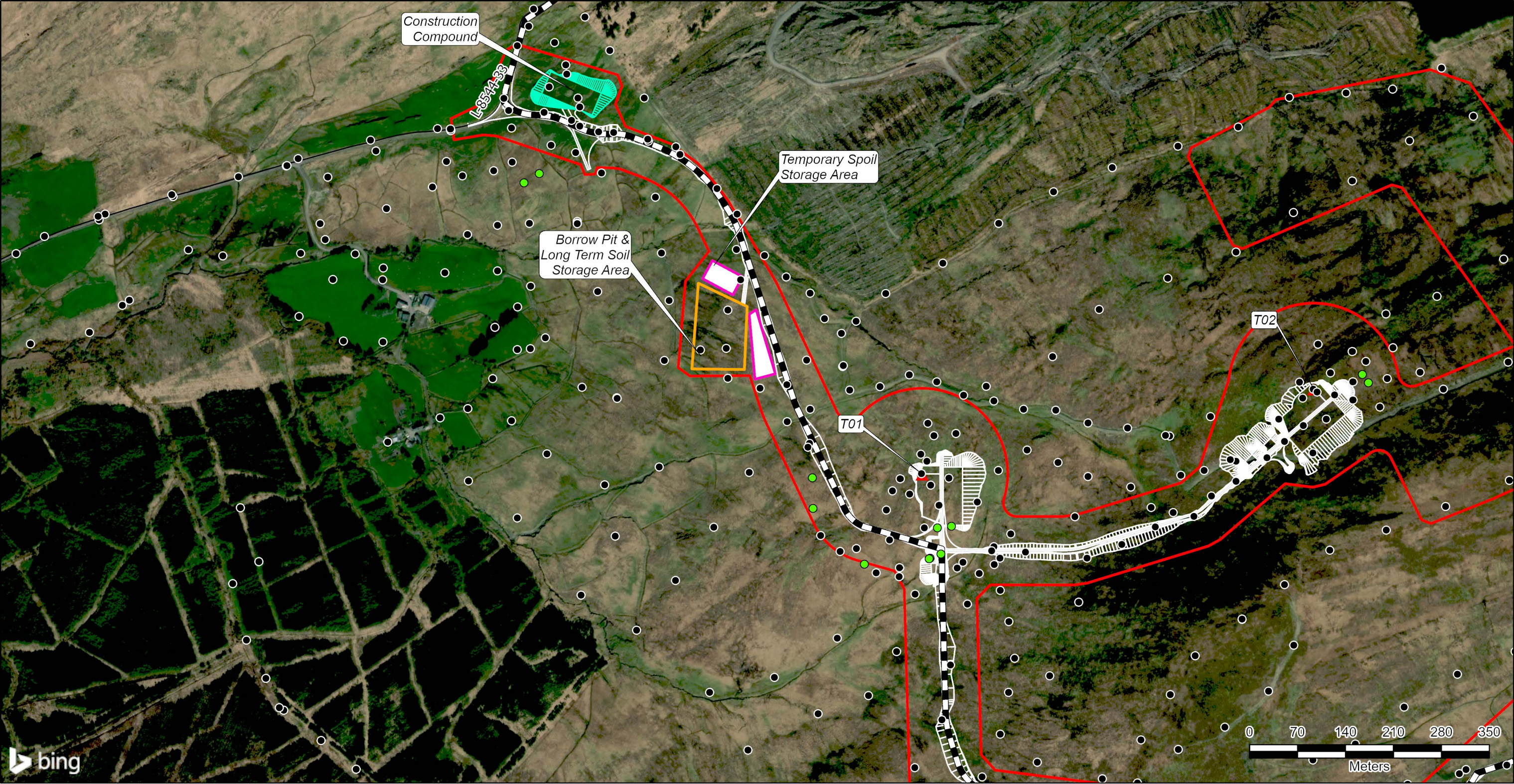
Table 5 presents the results of analysis along the proposed access tracks at nominal 100m centres in addition to other locations where deeper peat (0.5m and greater) was encountered. These calculations are based on the observations of peat depth (from peat probes), corrected shear strengths (from hand-held shear vane tests) and local slope measurements (from clinometer readings):

Table 5: Slope Stability Analysis Results – Access Tracks

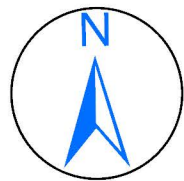
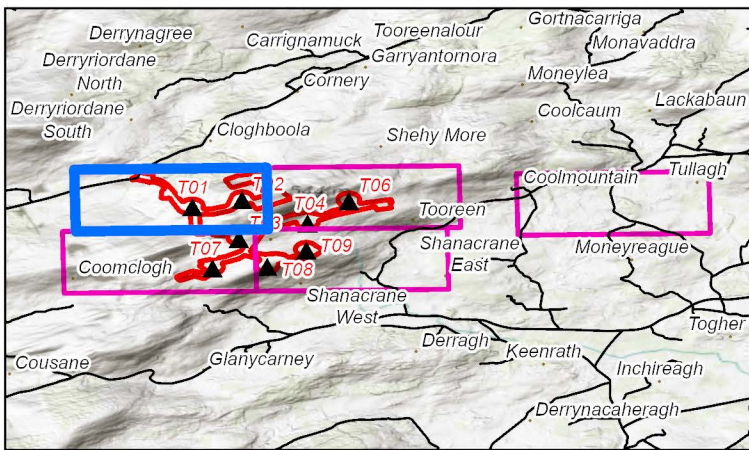
Probe ID	Slope °	Depth	Measured Cu (kPa)	Corrected Cu (kPa)	Factored Cu (kPa)	Safety Ratio	Safety Ratio +20kPa
April 2022 data							
251	5	0.9	20	10	7.1	9.1	2.4
291	3	0.6	20	10	7.1	22.8	4.3
301	3	1.5	25	12.5	8.9	11.4	4.2
311	2	1.8	40	20	14.3	22.8	9.3
321	2	1.5	40	20	14.3	27.3	10.0
331	2	3.3	40	20	14.3	12.4	6.9
341	3	0.8	20	10	7.1	17.1	4.0
351	3	0.8	20	10	7.1	17.1	4.0
371	5	1	15	7.5	5.4	6.2	1.7
391	5	1.2	15	7.5	5.4	5.1	1.6
40	5	0.9	10	5	3.6	4.6	1.2
411	2	1.8	20	10	7.1	11.4	4.7
421	2	3.3	18	9	6.4	5.6	3.1
471	10	0.8	20	10	7.1	5.2	1.2
491	5	0.7	25	12.5	8.9	14.7	3.1
511	5	0.6	16	8	5.7	11.0	2.1
571	10	0.6	25	12.5	8.9	8.7	1.6
591	10	0.7	30	15	10.7	9.0	1.9
601	2	1	10	5	3.6	10.2	2.8
61	2	2.6	18	9	6.4	7.1	3.5
63	2	1.8	15	7.5	5.4	8.5	3.5
641	2	1.5	15	7.5	5.4	10.2	3.7
671	10	0.7	30	15	10.7	9.0	1.9
681	5	0.7	30	15	10.7	17.6	3.7
751	5	0.7	30	15	10.7	17.6	3.7
771	10	0.8	16	8	5.7	4.2	1.0
781	10	0.6	30	15	10.7	10.4	2.0
791	10	0.6	30	15	10.7	10.4	2.0
801	10	0.7	15	7.5	5.4	4.5	0.9
811	3	1.6	10	5	3.6	4.3	1.6
891	5	0.6	18	9	6.4	12.3	2.3
921	2	0.9	10	5	3.6	11.4	2.9
931	25	0.7	20	10	7.1	2.7	0.6
941	25	1.1	15	7.5	5.4	1.3	0.4
1091	10	1.5	16	8	5.7	2.2	0.8
1101	10	1.7	12	6	4.3	1.5	0.6
1131	5	1.2	16	8	5.7	5.5	1.7

Probe ID	Slope °	Depth	Measured Cu (kPa)	Corrected Cu (kPa)	Factored Cu (kPa)	Safety Ratio	Safety Ratio +20kPa
1151	10	0.6	16	8	5.7	5.6	1.0
1161	10	0.6	16	8	5.7	5.6	1.0
1171	10	0.7	10	5	3.6	3.0	0.6
160	8	0.7	10	5	3.6	3.7	0.8
161	5	1.3	20	10	7.1	6.3	2.1
177	10	0.8	20	10	7.1	5.2	1.2
178	10	0.7	12	6	4.3	3.6	0.8
December 2022 data							
1	1	3.6	20	10	7.1	11.4	6.6
14	2	0.8	50	25	17.9	64.0	15.1
16	3	1.2	20	10	7.1	11.4	3.6
17	25	0.6	36	18	12.9	5.6	1.0
20	20	0.9	20	10	7.1	2.5	0.6
23	9	1	30	15	10.7	6.9	1.9
24	9	1.7	30	15	10.7	4.1	1.6
25	5	0.7	20	10	7.1	11.8	2.5
26	5	0.7	20	10	7.1	11.8	2.5
36	15	0.6	36	18	12.9	8.6	1.6
41	30	0.6	12	6	4.3	1.6	0.3
67	10	0.6	30	15	10.7	10.4	2.0
76	3	1.3	40	20	14.3	21.0	7.0
June 2023 data							
1	2	1	20	10	7.1	20.5	5.7
2	3	1	20	10	7.1	13.7	3.8
3	3	1.1	25	12.5	8.9	15.5	4.6
4	3	1.1	25	12.5	8.9	15.5	4.6
5	3	1.1	20	10	7.1	12.4	3.7
32	10	0.9	25	12.5	8.9	5.8	1.5
July 2023 data							
1	5	0.6	25	12.5	8.9	17.1	3.2
2	6	1.1	25	12.5	8.9	7.8	2.3
5	3	0.8	10	5	3.6	8.5	2.0
6	2	1	12	6	4.3	12.3	3.4
7	1	3.8	16	8	5.7	8.6	5.1
8	1	1.1	20	10	7.1	37.2	11.1
9	3	0.6	30	15	10.7	34.2	6.4
12	3	0.6	20	10	7.1	22.8	4.3
14	3	0.7	30	15	10.7	29.3	6.2
15	2	0.7	12	6	4.3	17.6	3.7
16	3	1.1	12	6	4.3	7.5	2.2
17	2	1.7	30	15	10.7	18.1	7.1
18	2	0.7	16	8	5.7	23.4	5.0
19	2	1.3	10	5	3.6	7.9	2.6
20	2	1.1	18	9	6.4	16.8	5.0
22	5	1.1	20	10	7.1	7.5	2.2

Probe ID	Slope °	Depth	Measured Cu (kPa)	Corrected Cu (kPa)	Factored Cu (kPa)	Safety Ratio	Safety Ratio +20kPa
23	5	1	20	10	7.1	8.2	2.3
24	5	0.8	30	15	10.7	15.4	3.6
25	2	1.3	25	12.5	8.9	19.7	6.6
26	2	2.5	18	9	6.4	7.4	3.6
27	5	0.7	30	15	10.7	17.6	3.7
30	3	0.7	20	10	7.1	19.5	4.1
31	6	0.7	30	15	10.7	14.7	3.1
32	6	0.7	30	15	10.7	14.7	3.1
33	5	1.3	22	11	7.9	7.0	2.3
36	3	1.7	16	8	5.7	6.4	2.5
37	2	1.6	10	5	3.6	6.4	2.4
38	5	0.6	30	15	10.7	20.6	3.9
39	5	0.7	30	15	10.7	17.6	3.7
40	4	1.1	20	10	7.1	9.3	2.8
41	5	0.6	25	12.5	8.9	17.1	3.2
Jan 2024 Data							
145	1	0.8	30	15	10.7	76.8	18.1
146	1	1.6	25	12.5	8.9	32.0	12.2
147	1	1.2	26	13	9.3	44.3	14.0
148	1	0.7	27	13.5	9.6	78.9	16.7



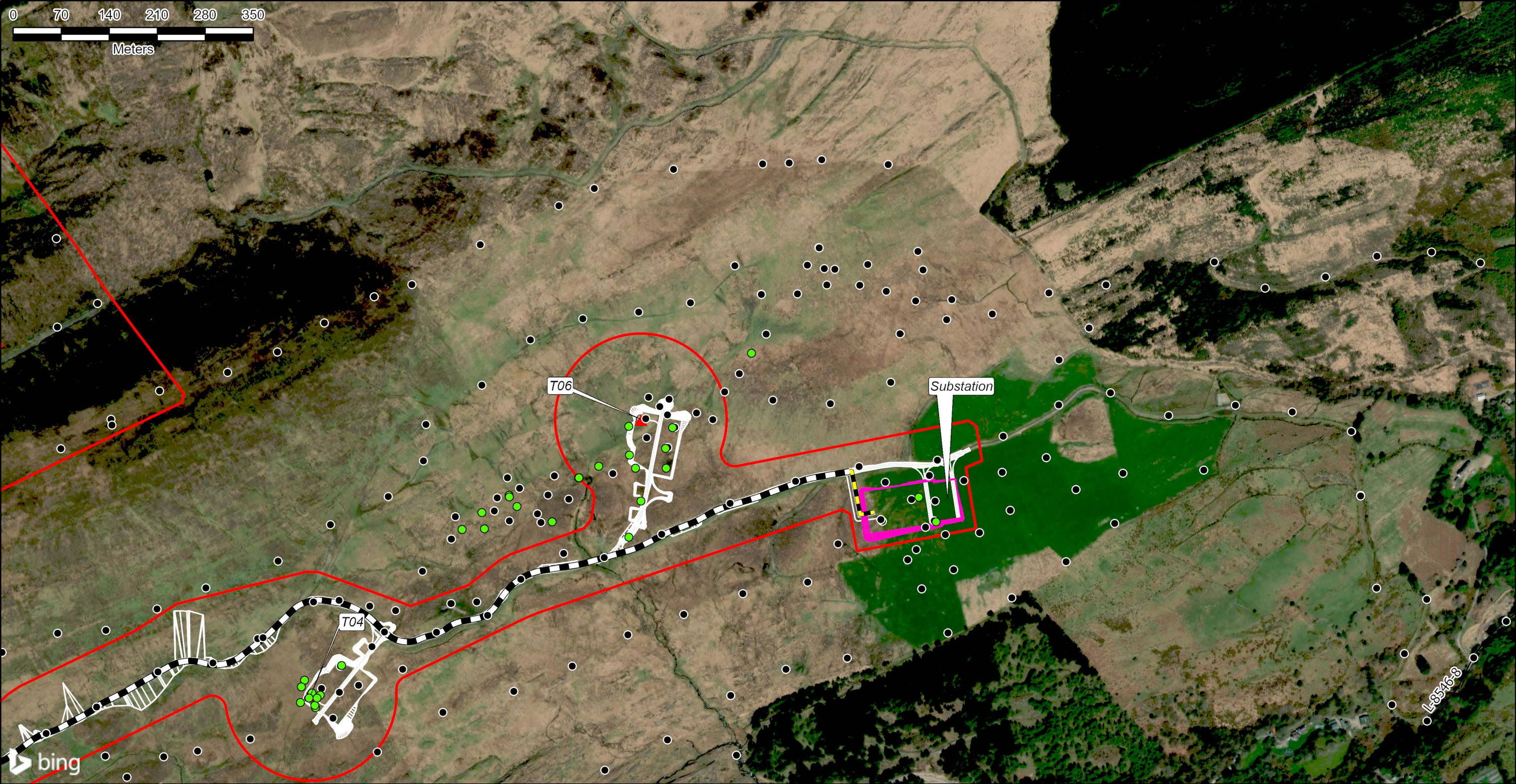
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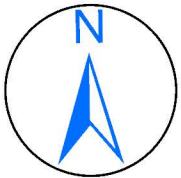
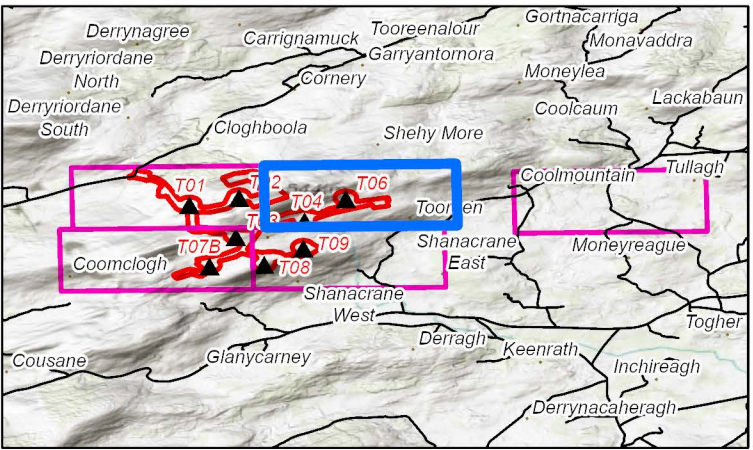
Legend

- ▲ Turbines
- EIA Boundary
- Borrow Pit & Long Term Soil Storage Area
- Temporary Spoil Storage Locations
- Construction Compound
- Access Road Layout & Hardstand Areas
- Both Grid Connection Route Options
- Safety Ratio (No Surcharge)**
 - >1
 - FOS N/A ($\leq 0.5m$ Peat or Soil)

Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios (No Surcharge)	
Spatial Reference Name: IREN95 Irish Transverse Mercator	
Figure Number: 6	Page Size: A3
Date Exported: 07/03/2025	Scale: 1:5,500
Revision Number: 4	Prepared By: DP
Tel: +353 (91) 897 583	Checked By: AG
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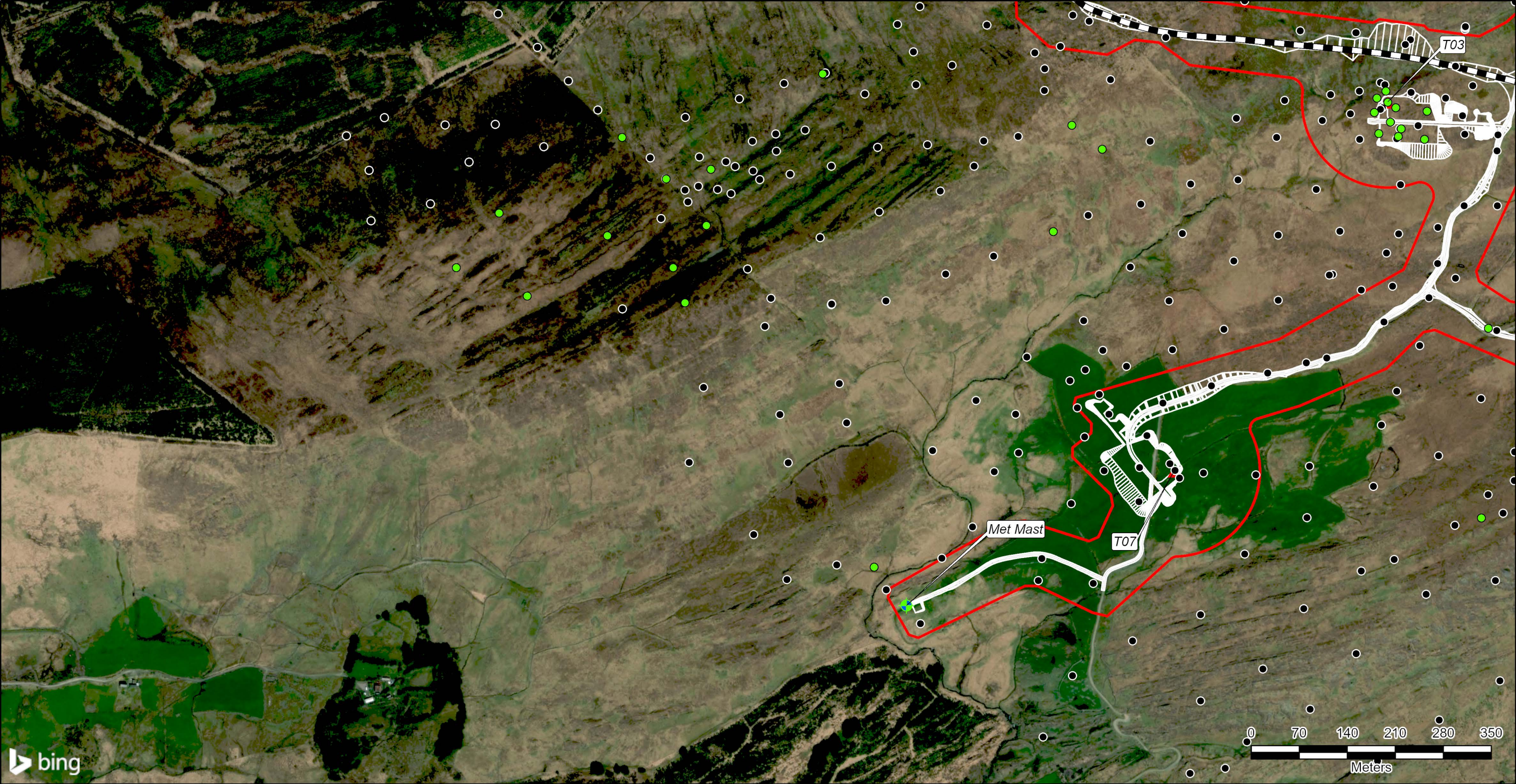
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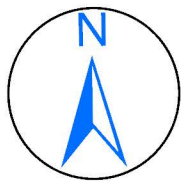
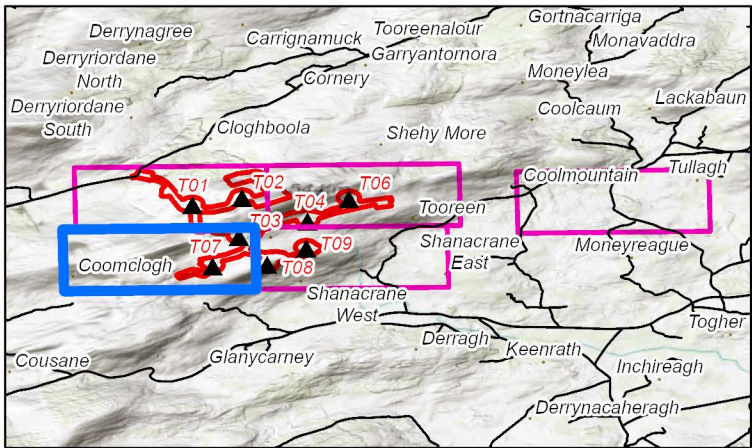
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- Turbines
- EIAR Boundary
- Access Road Layout & Hardstand Areas
- Substation
- Both Grid Connection Route Options
- Safety Ratio (No Surcharge)**
 - >1
 - FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)
 - Point Labels

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Project: Gortloughra Wind Farm	
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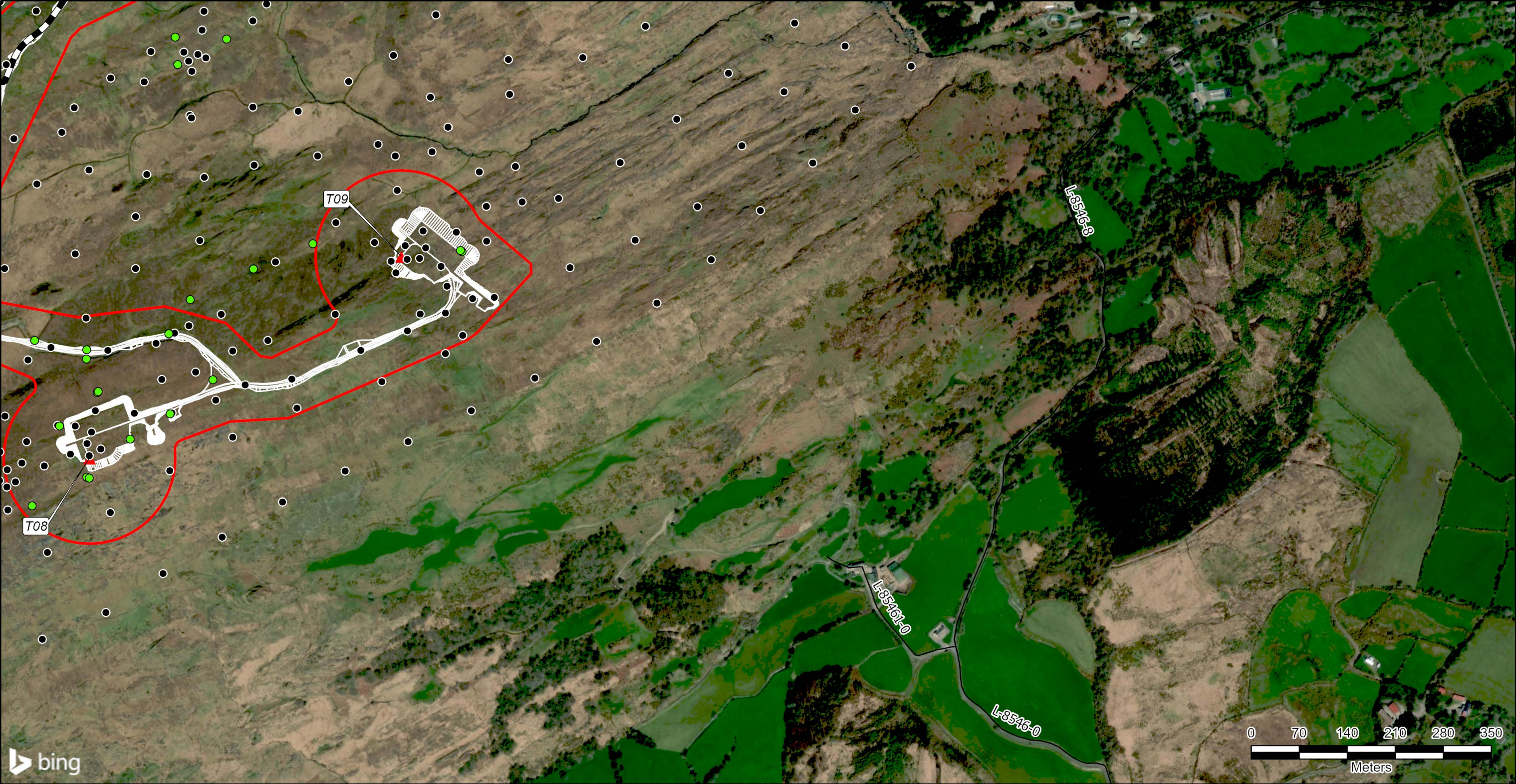
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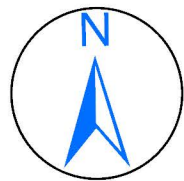
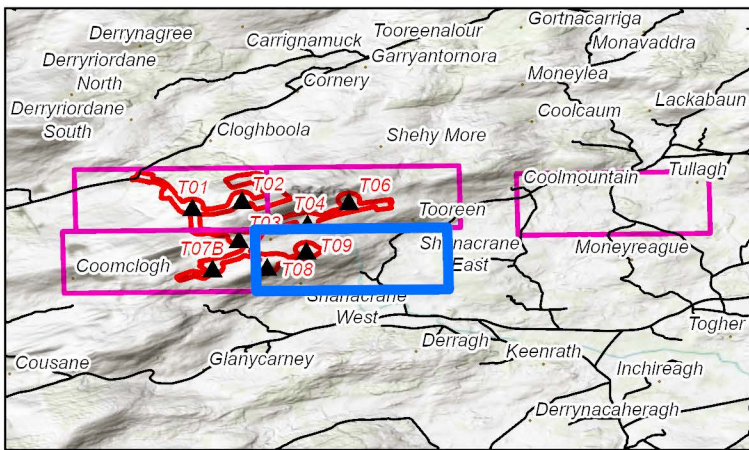
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- Turbines
- EIAR Boundary
- Met Mast
- Access Road Layout & Hardstand Areas
- Both Grid Connection Route Options
- Safety Ratio (No Surcharge)
 - >1
 - FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)

Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios (No Surcharge)	
Spatial Reference Name: IREN95 Irish Transverse Mercator	
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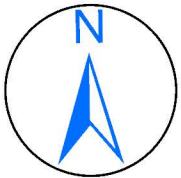
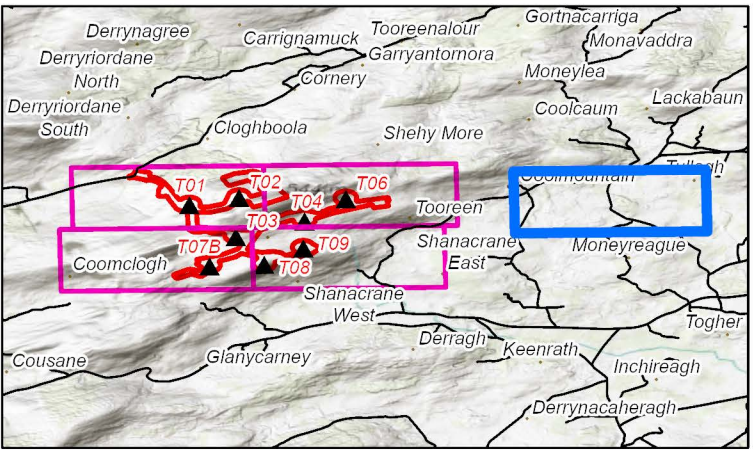
Legend

- ▲ Turbines
- EIAR Boundary
- Access Road Layout & Hardstand Areas
- Both Grid Connection Route Options
- Safety Ratio (No Surcharge)**
 - >1
 - FOS N/A ($\leq 0.5m$ Peat or Soil)

Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios (No Surcharge)	
Spatial Reference Name: IRENET95 Irish Transverse Mercator	
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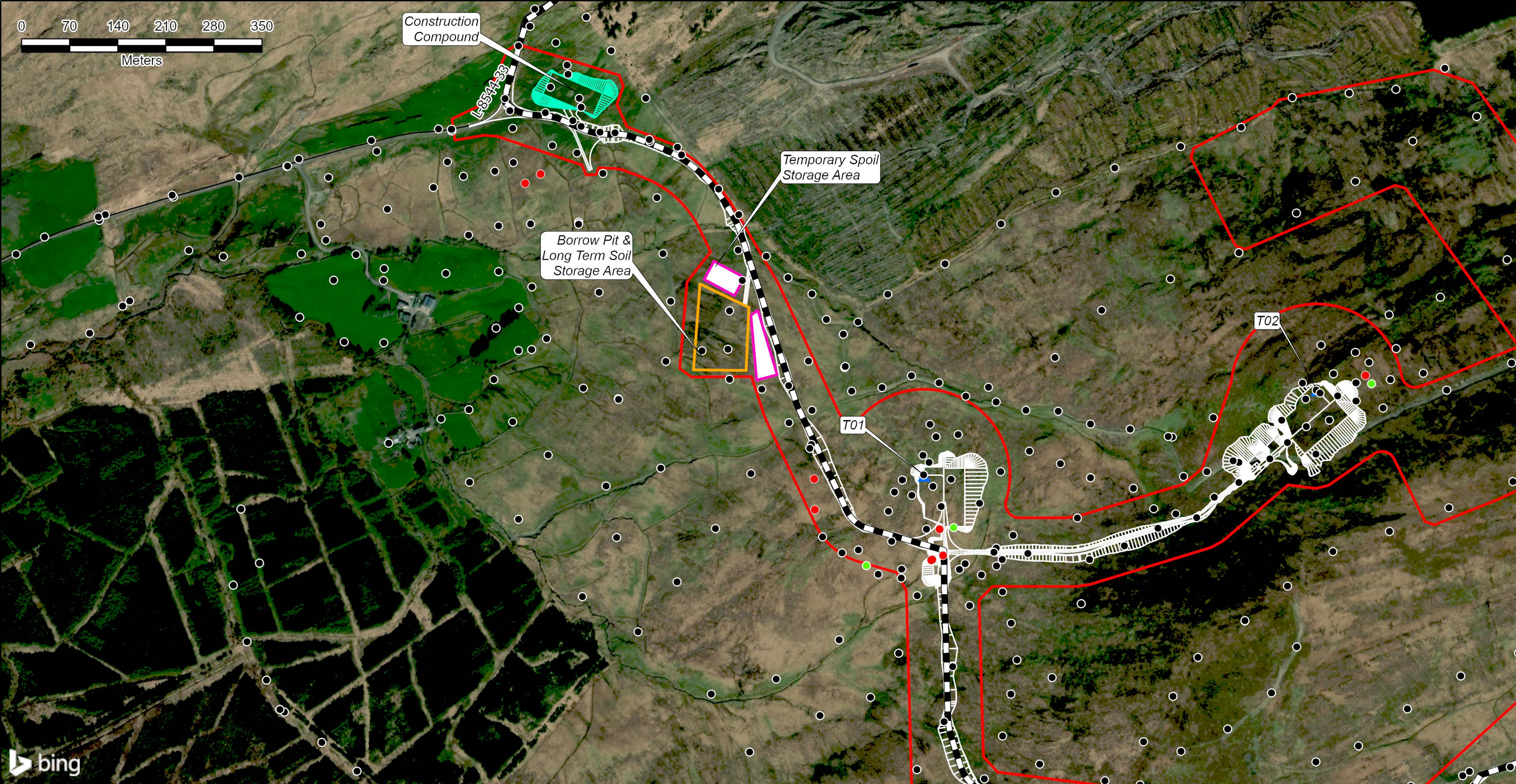
Grid Connection Route Options

Dunmanway Option

Safety Ratio (No Surcharge)

- >1
- FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)

Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios (No Surcharge)	
Spatial Reference Name: IRENET95 Irish Transverse Mercator	
Figure Number: 10	Page Size: A3
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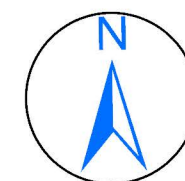
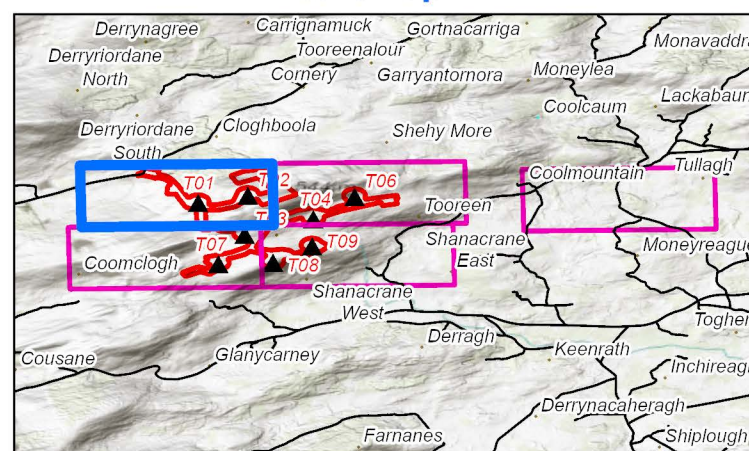
- Turbines
- EIAR Boundary
- Construction Compound
- Access Road Layout & Hardstand Areas
- Borrow Pit & Long Term Soil Storage Area
- Temporary Spoil Storage Locations

Both Grid Connection Route Options

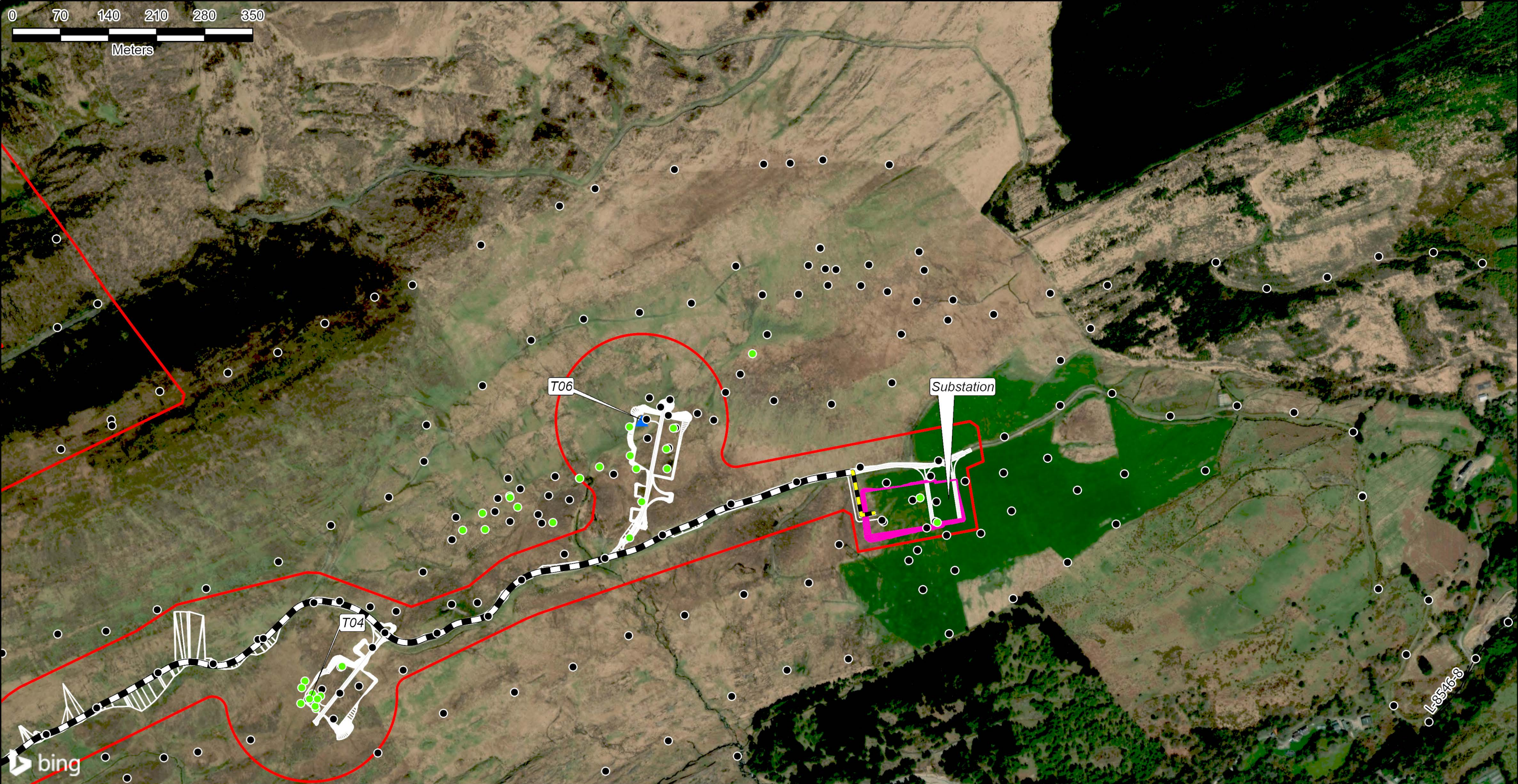
Safety Ratio + 20 kPa Surcharge

- FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)
- ≤ 1
- > 1

Extent Map



Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios + 20 kPa	
Spatial Reference Name: IRENET95 Irish Transverse Mercator	
Figure Number: 11	Page Size: A3
Date Exported: 07/03/2025	Scale: 1:5,500
Revision Number: 3	Prepared By: DP
Tel: +353 (91) 897 583	Checked By: AG
Email: info@ecoquest.ie	
Web: www.ecoquest.ie	



Legend

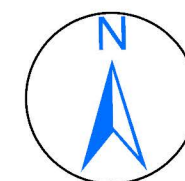
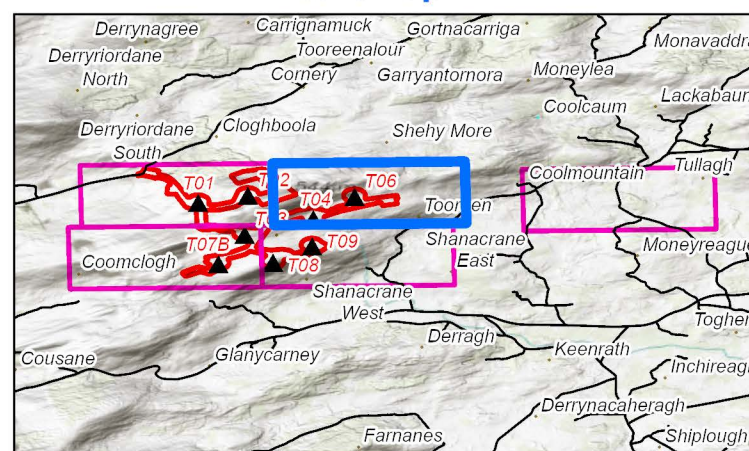
- Turbines
- EIAR Boundary
- Access Road Layout & Hardstand Areas
- Substation

- Both Grid Connection Route Options

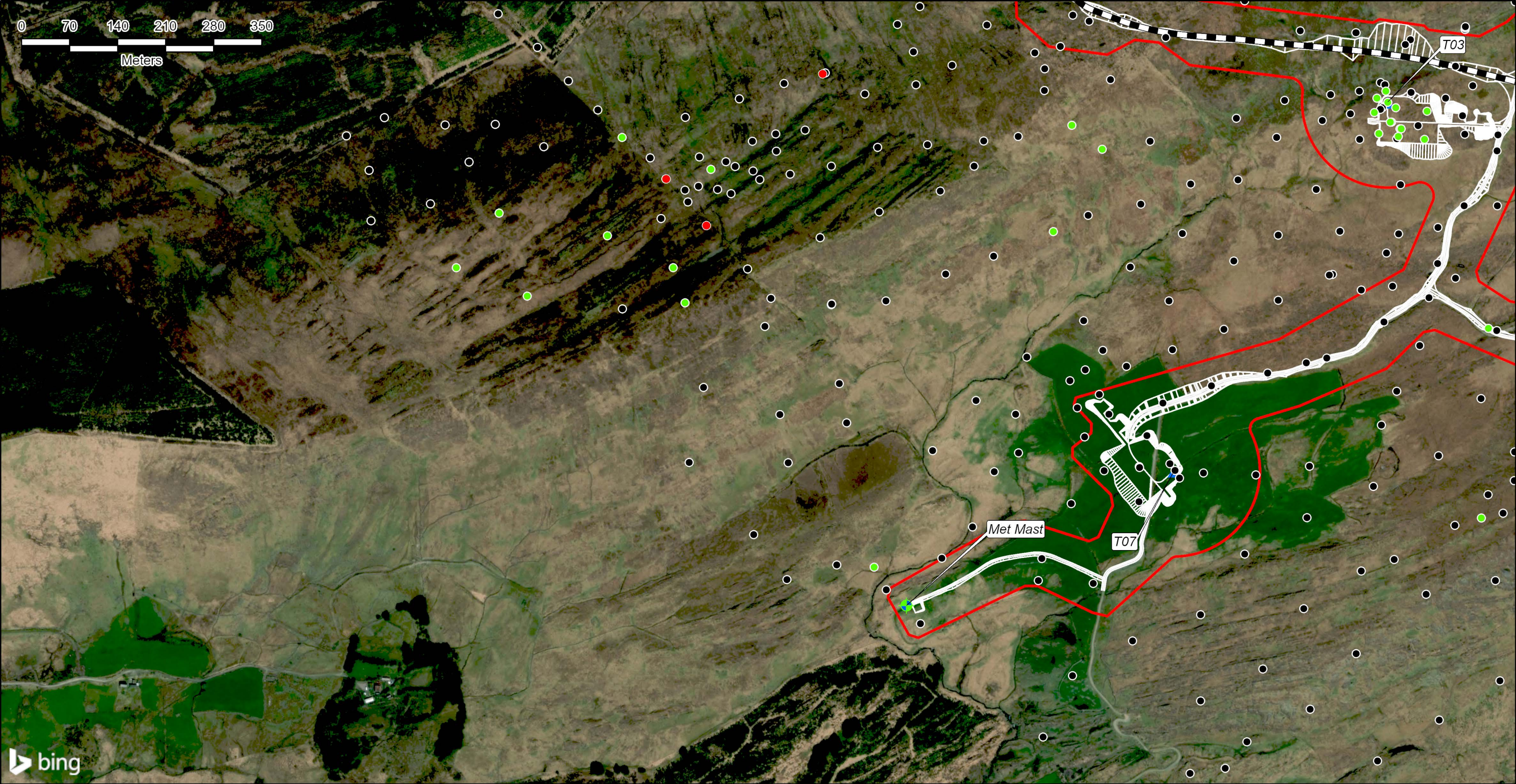
Safety Ratio + 20 kPa Surcharge

- FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)
- >1

Extent Map



Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios + 20 kPa	
Spatial Reference Name: IRENET95 Irish Transverse Mercator	
Figure Number: 12	Page Size: A3
Date Exported: 14/11/2024	Scale: 1:5,500
Revision Number: 3	Prepared By: DP
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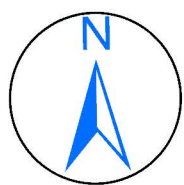
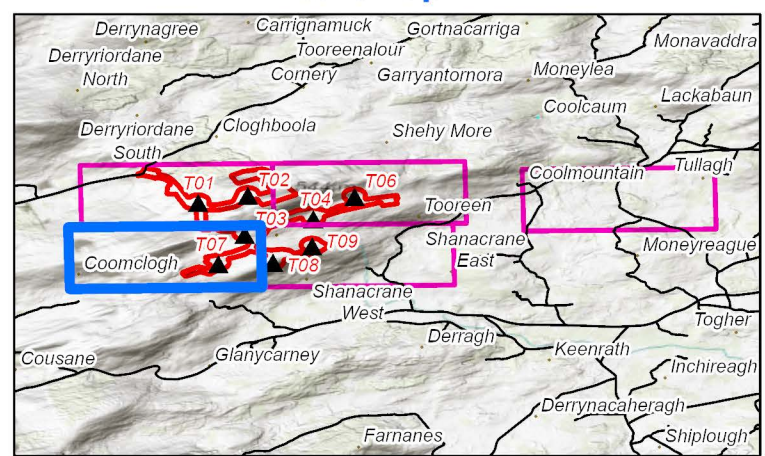
Legend

- ▲ Turbines
- EIAR Boundary
- Met Mast
- Access Road Layout & Hardstand Areas
- Both Grid Connection Route Options

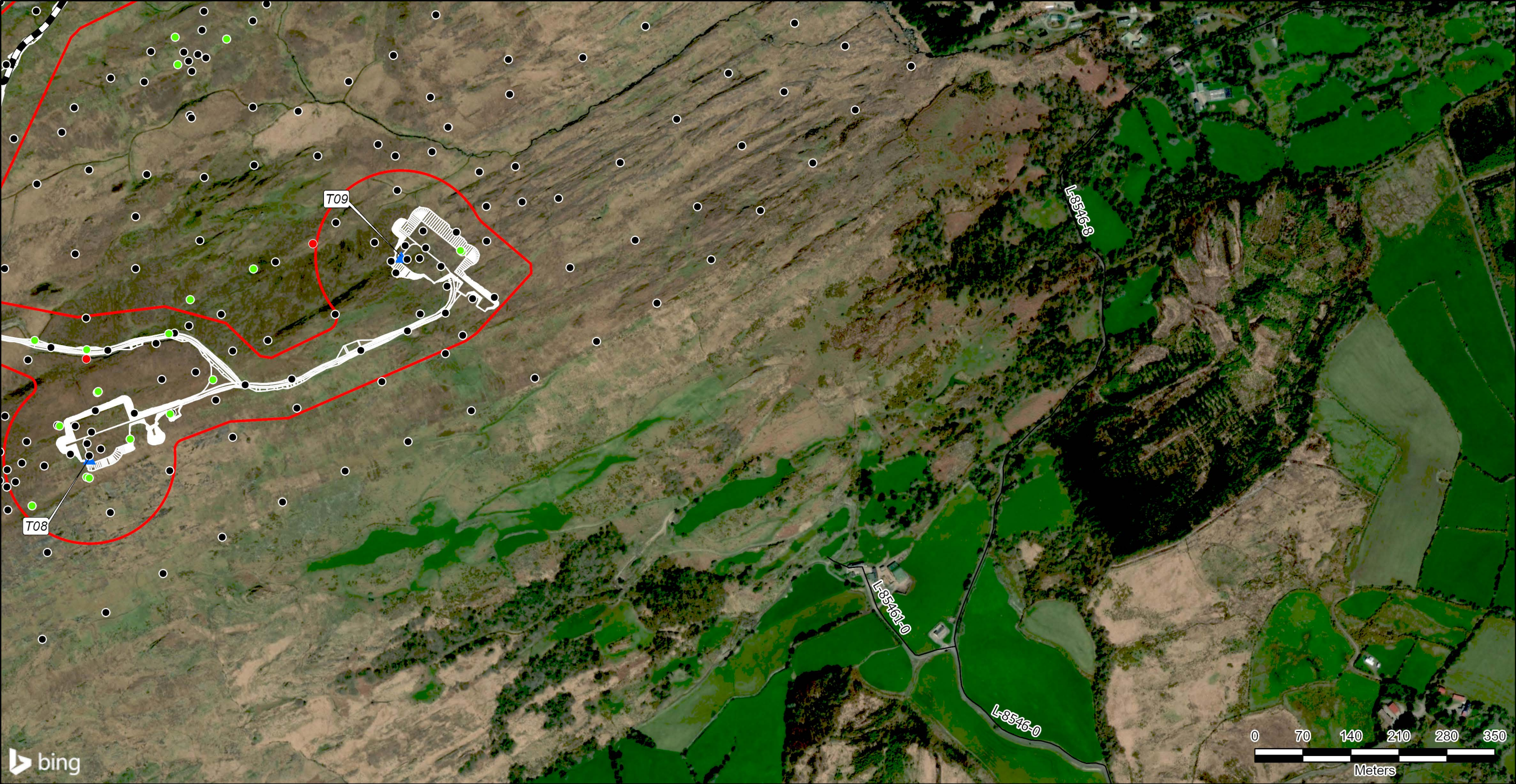
Safety Ratio + 20 kPa Surcharge

- FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)
- ≤ 1
- > 1

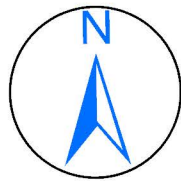
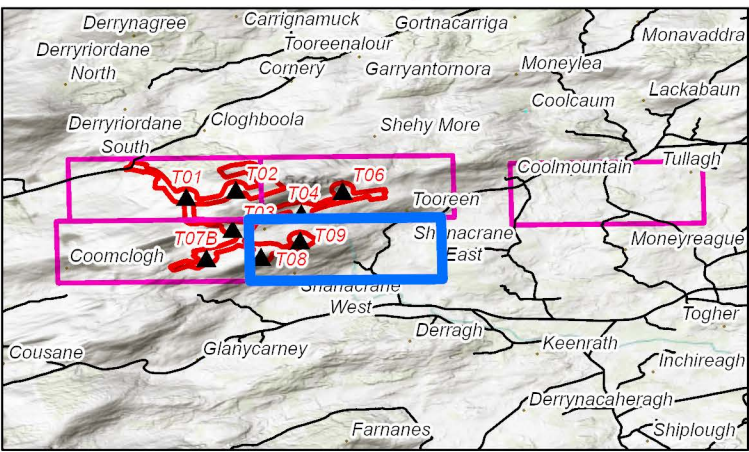
Extent Map



Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios + 20 kPa	
Spatial Reference Name: IREN95 Irish Transverse Mercator	
Figure Number: 13	Page Size: A3
Date Exported: 07/03/2025	Scale: 1:5,500
Revision Number: 3	Prepared By: DP
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Extent Map



Legend

- ▲ Turbines
- EIAR Boundary
- Access Road Layout & Hardstand Areas
- Both Grid Connection Route Options

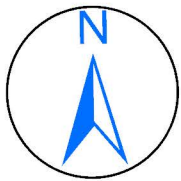
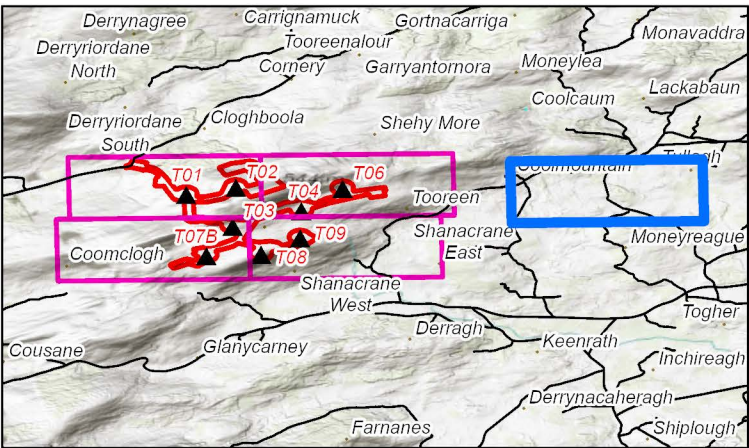
Safety Ratio + 20 kPa Surcharge

- FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)
- ≤ 1
- > 1

Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios + 20 kPa	
Spatial Reference Name: IRENET95 Irish Transverse Mercator	
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Extent Map



Legend

Safety Ratio + 20 kPa Surcharge

- FOS N/A ($\leq 0.5\text{m}$ Peat or Soil)
- >1

Grid Connection Route Options

- Dunmanway Option

Client: Jennings O'Donovan & Partners	
Project: Gortloughra Wind Farm	
Map Title: Calculated Safety Ratios + 20 kPa	
Spatial Reference Name: IRENET95 Irish Transverse Mercator	
Figure Number: 15	Page Size: A3
Date Exported: 14/11/2024	Scale: 1:5,500
Revision Number: 3	Prepared By: DP
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4.4. Slope Stability Analysis Conclusions

Based on the analyses presented, the locations of the turbines and the substation are considered to be stable. The results give rise to in-situ safety ratios for translational slides which are above the minimum required value for all locations analysed.

Safety ratios which include a surcharge of 20kPa to simulate loading of the peat (by traffic, floating roads or stockpiling) are also shown in **Tables 4** and **5**. The ratios show that a few locations are considered to be potentially unstable in the long term without suitable mitigation measures, if they are surcharged by 20kPa (highlighted in red in **Tables 4** and **5**). These locations are discussed further in **Section 5** below and should act as warnings of potential areas of instability. However, these areas are localised and must be considered in the overall stability of the area rather than in isolation.

5. PSRA Discussion and Mitigation Measures

The desk study has identified that the geology of the main Site comprises thin or absent blanket peat overlying shallow bedrock.

Multiple site walkovers were undertaken which comprised peat probes, hand-held shear vanes, hand-dug trial holes and gouge cores at turbine and substation locations with additional peat probes and hand-held shear vane along the proposed access routes at nominal 100m centres. The investigation found a maximum depth of peat of 3.8m.

A quantitative translational landslide stability analysis was also undertaken for the area using information gained from the site walkover, in particular slope angles and peat shear strengths. The results showed that the in-situ safety ratios throughout the site (both within and outside the red line boundary) are above the minimum safety factor required for long-term stability (see **Figures 6** to **10**). However, when a surcharge is added to the peat, the factor of safety at several localised locations falls below the minimum recommended ratio of 1.0 (see **Figures 11** to **15**). The developer has committed to additional safety mitigation measures as outlined below which will be undertaken at these locations to ensure stability during construction.

Loading of the peat during or after construction will be avoided at all times but particularly at the following locations where a Safety Ratio of below 1.0 was calculated with a traffic loading of 20kPa (see **Figures 11** to **15**):

- To the west and south of T01 (**Figure 11**).
- East of T02 (**Figure 11**).
- North of T08 (**Figure 14**).

In addition to the mitigation measures outlined within the EIAR, additional mitigation measures should be implemented in areas of potential lower stability. These measures are especially important at and around turbine T01:

- Avoidance of stockpiling on the peat, particularly in areas of deeper peat (>1m) or areas with a low safety ratio (<1.0).
- Additional drainage in areas of construction where a low safety ratio (<1.0) has been calculated.
- Avoidance of drains discharging onto areas of weak or deep peat (>1.0m) or areas of low safety ratios (<1.0).
- Avoidance of blasting, particularly within 1km of areas of low safety ratios (<1.0).

It should be noted that vehicular access to any areas of deep peat (>1m) during construction will be restricted to low ground pressure vehicles, with all construction vehicles travelling on existing access tracks whenever possible.

The risk of a peat slide occurring at the proposed location of turbine T01 is considered to be low, while the risk of a peat slide occurring at the remaining turbine and infrastructure locations is considered to be very low or negligible. The risk of a slide occurring along the proposed grid route is also considered to be negligible due to a combination of low slopes and generally thin or absent peat in addition to the grid route being located predominantly within existing roads and pavements. The risks associated with construction of access roads is

considered to be negligible to very low, with implementation of the above mitigation measures. The developer has committed to properly implement and monitor these mitigation measures.

6. Bibliography

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Appendix 1: Site Walkover Test Results

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
1	51.775321	-9.243802	341.3	0.1
2	51.774858	-9.243797	337.0	0.2
3	51.775259	-9.244541	342.0	0.1
4	51.775729	-9.243653	350.7	0.1
5	51.775309	-9.243798	342.1	0.1
7	51.776717	-9.240315	348.8	0.3
8	51.780093	-9.238815	382.6	2.9
9	51.779677	-9.238485	391.4	1
10	51.779992	-9.239471	388.2	1.1
11	51.780409	-9.238848	390.8	0.3
12	51.780286	-9.238193	391.2	0.3
13	53.458895	-9.464290	394.5	0.1
14	51.781699	-9.234804	112.4	0.5
15	53.458753	-9.463986	401.4	0.3
16	51.781651	-9.231127	114.3	0.6
17	53.458675	-9.464391	370.3	0.1
18	51.781418	-9.231726	111.2	0.1
19	53.459069	-9.464100	368.1	0.1
20	51.781302	-9.230690	113.6	2
21	53.459027	-9.464460	352.7	0.4
22	51.781927	-9.230359	112.8	0.2
23	53.459228	-9.464781	361.5	0.4
24	51.781922	-9.231592	113.6	0.4
25	53.459825	-9.465591	369.3	0.3
26	51.783495	-9.228415	112.8	0.5
27	53.460308	-9.466067	374.2	0.3
28	51.785081	-9.222469	108.6	0.2
29	53.460664	-9.466514	339.4	0.2
30	51.788069	-9.214634	107.0	0.2
31	53.461231	-9.467410	374.7	0.4
32	51.787634	-9.214955	104.7	0.8
33	53.461896	-9.468429	375.1	0.2
34	51.787635	-9.214950	104.1	2.7
35	53.462660	-9.469190	374.7	2.5
36	51.788188	-9.215255	113.3	2
37	53.462153	-9.468725	380.8	0.6
38	51.788477	-9.214488	102.9	0.4
39	53.462499	-9.469059	378.3	0.4
40	51.787828	-9.213975	107.0	0.3
41	53.462827	-9.469043	365.0	1.7
42	51.785012	-9.213924	113.5	0.2
43	53.462549	-9.469482	338.5	0.3
44	51.785042	-9.213202	105.4	0.3

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
45	53.462777	-9.469438	338.1	0.2
46	51.784552	-9.213734	110.2	0.1
47	53.463135	-9.469890	329.8	0.1
48	51.784808	-9.214532	110.1	1.1
49	53.463942	-9.470611	335.8	2.9
50	51.785450	-9.214154	107.0	3
51	53.464608	-9.471724	340.4	0.8
52	51.785221	-9.223460	104.3	0.2
53	53.465236	-9.472787	341.9	0.6
54	51.785661	-9.223193	106.3	0.3
55	53.465865	-9.473869	344.9	0.6
56	51.785697	-9.222201	110.0	1.8
57	53.466643	-9.474889	338.9	0.9
58	51.785193	-9.222545	116.6	0.3
59	53.467269	-9.475362	338.7	0.9
60	51.785524	-9.222935	122.4	2.4
61	53.467444	-9.475395	340.8	0.3
62	51.775737	-9.235317	122.6	0.3
63	53.467338	-9.475653	395.2	0.5
64	51.776065	-9.235780	116.7	0.9
65	53.467584	-9.475540	391.7	0.4
66	51.775595	-9.235882	123.4	0.2
67	53.467577	-9.475157	397.1	0.9
68	51.775423	-9.234938	128.9	0.3
69	53.468956	-9.475606	397.0	1.4
70	51.775955	-9.234665	148.9	0.2
72	51.777514	-9.226516	397.4	0.2
73	53.468213	-9.470856	170.9	0.3
74	51.777709	-9.225948	352.4	0.3
75	53.469903	-9.468943	207.1	0.2
76	51.777867	-9.226493	349.0	0.4
77	53.470630	-9.467201	248.8	0.3
78	51.777225	-9.226142	349.4	0.4
81	53.471023	-9.465507	273.9	1.1
82	51.777272	-9.227314	351.8	0.3
83	53.471097	-9.465219	253.6	0.2
84	51.779805	-9.238420	358.7	0.3
85	53.471205	-9.465181	254.5	0.7
86	51.780076	-9.238799	360.5	0.7
87	53.471079	-9.464930	250.9	0.4
88	51.779711	-9.228001	388.4	0.6
89	53.470881	-9.465221	249.8	0.5
90	51.779547	-9.229268	390.3	0.2
91	53.470687	-9.464659	254.2	0.3

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
92	51.779409	-9.230610	338.6	0.3
93	53.470027	-9.463419	255.5	0.3
94	51.779241	-9.231661	341.3	0.8
95	53.469492	-9.462296	247.6	0.2
96	51.779265	-9.232871	344.1	0.3
97	53.469159	-9.462185	236.9	0.4
98	51.779310	-9.234096	349.6	0.3
99	53.468631	-9.461211	225.0	0.3
100	51.779117	-9.235192	352.0	1
101	53.468049	-9.460074	223.7	0.6
102	51.778818	-9.236332	357.1	0.3
103	53.468047	-9.460073	208.6	0.3
104	51.778522	-9.237581	364.2	0.3
105	53.467574	-9.459029	195.8	0.4
106	51.778175	-9.238655	370.9	0.4
107	53.467743	-9.459200	198.1	0.3
108	51.777884	-9.239792	377.6	0.3
109	53.467707	-9.458837	180.3	0.3
110	51.777874	-9.239860	380.8	0.3
111	53.467445	-9.458831	183.0	0.3
112	51.777531	-9.240925	379.1	0.3
113	53.467421	-9.459267	178.9	0.3
114	51.777138	-9.242062	378.4	0.2
115	53.467106	-9.458640	176.4	0.5
116	51.776860	-9.243143	373.9	0.2
117	53.466361	-9.458140	179.0	0.3
118	51.776631	-9.244106	370.1	0.3
119	53.465447	-9.457719	171.8	0.4
120	51.776074	-9.245134	362.3	0.3
121	53.464496	-9.457566	155.9	0.2
122	51.775472	-9.246359	352.5	0.6
123	53.463662	-9.456854	141.5	0.2
124	51.775219	-9.246861	334.9	0.2
125	53.463040	-9.455757	134.6	0.4
126	51.774490	-9.247306	316.3	0.4
127	53.463206	-9.455589	124.6	0.3
128	51.774094	-9.245828	310.9	0.6
129	53.463181	-9.455925	121.2	1.1
130	51.774094	-9.245822	299.0	0.3
131	53.462911	-9.455974	122.1	0.5
132	51.784977	-9.247160	305.3	0.4
133	53.462939	-9.455534	121.1	0.6
134	51.784586	-9.247080	306.7	0.6
135	53.462451	-9.454696	120.4	0.3

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
136	51.784105	-9.246862	359.2	0.3
137	53.462073	-9.453528	119.8	0.2
138	51.784753	-9.246350	362.7	0.3
139	53.461280	-9.453483	114.4	0.3
140	51.784466	-9.247779	357.6	0.4
141	53.460131	-9.453288	109.4	0.4
142	51.786441	-9.236752	368.7	0.2
143	53.454415	-9.455753	107.4	0.4
144	51.786814	-9.236612	357.0	0.2
145	53.455072	-9.454072	101.4	0.4
146	51.786813	-9.236607	465.5	0.4
147	53.455487	-9.452700	82.9	0.2
148	51.786810	-9.236604	462.8	0.3
149	53.455071	-9.451923	86.9	0.2
150	51.786766	-9.237336	462.8	0.2
151	53.454489	-9.451173	95.0	0.2
152	51.787221	-9.236497	462.5	0.3
153	53.454665	-9.450146	93.7	0.2
154	51.786905	-9.235917	460.7	0.2
155	53.454738	-9.450072	99.9	0.3
156	51.786722	-9.230575	459.8	0.2
157	53.454833	-9.450035	100.7	0.1
158	51.786340	-9.231591	464.7	0.2
159	53.454825	-9.449819	100.8	0.2
160	51.786263	-9.231565	550.1	0.2
161	53.454700	-9.449852	100.6	0.4
162	51.785943	-9.232637	544.7	0.2
163	51.785508	-9.233992	101.4	0.2
164	51.785149	-9.235330	550.0	0.2
165	51.784828	-9.236574	100.5	0.2
166	51.784549	-9.237760	538.2	0.2
167	51.784088	-9.238709	530.6	0.1
168	51.783624	-9.239597	518.1	0.2
169	51.783627	-9.239591	513.0	0.2
170	51.783133	-9.240572	505.1	0.3
171	51.782617	-9.241083	494.4	0.2
172	51.782017	-9.241686	505.2	0.1
173	51.781498	-9.242490	505.4	0.2
174	51.780951	-9.243401	486.5	0.5
175	51.780386	-9.244549	463.5	0.2
176	51.780718	-9.246161	446.2	0.2
177	51.781148	-9.245021	433.8	0.2
178	51.781702	-9.243875	425.0	0.6
179	51.782838	-9.243640	424.0	0.4

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
180	51.783812	-9.243052	410.1	0.2
181	51.784963	-9.240647	411.6	0.5
182	51.785695	-9.239778	419.8	0.3
183	51.785820	-9.238154	419.4	0.1
184	51.785821	-9.238153	423.7	1.1
185	51.786690	-9.235420	426.4	1
186	51.787060	-9.234059	434.4	0.3
187	51.787537	-9.232756	458.1	0.8
188	51.787856	-9.231917	457.9	0.8
189	51.788697	-9.232810	468.8	0.3
190	51.788409	-9.234187	473.4	0.2
191	51.787903	-9.235588	473.9	0.2
192	51.787664	-9.236660	472.9	0.3
193	51.787250	-9.238085	449.7	0.2
194	51.786259	-9.238890	445.4	0.2
195	51.786277	-9.240336	451.1	0.2
196	51.786014	-9.241193	446.2	0.2
197	51.785335	-9.241997	443.6	0.2
198	51.784931	-9.243167	442.0	0.1
199	51.784691	-9.244517	430.0	0.1
200	51.784309	-9.245517	413.8	0.2
201	51.783878	-9.246516	403.6	0.2
202	51.783122	-9.246890	400.8	0.2
203	51.782537	-9.247467	390.5	0.2
204	51.782290	-9.248525	368.7	0.2
205	51.781796	-9.249996	353.7	0.2
206	51.782543	-9.250828	352.3	0.2
207	51.782756	-9.249462	347.0	0.2
208	51.783283	-9.248147	338.3	0.2
209	51.784152	-9.247348	341.5	0.2
210	51.785232	-9.247033	330.5	0.2
211	51.785962	-9.246178	333.9	0.2
212	51.786626	-9.245091	338.4	0.1
213	51.787029	-9.243699	353.1	0.1
214	51.787658	-9.242727	362.1	0.1
215	51.788085	-9.241287	370.1	0.1
216	51.788442	-9.239852	377.9	0.2
217	51.788973	-9.238656	387.4	0.3
218	51.789401	-9.237424	391.9	0.3
219	51.789942	-9.236223	397.6	0.3
220	51.790279	-9.234884	401.4	0.3
221	51.790903	-9.235573	389.1	0.3
222	51.790616	-9.236600	385.0	0.3
223	51.790556	-9.237582	386.2	0.2

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
224	51.790483	-9.238780	390.5	0.2
225	51.790084	-9.239852	354.6	0.2
226	51.789817	-9.241120	350.4	0.2
227	51.789524	-9.242504	342.9	0.2
228	51.789194	-9.243736	327.7	0.2
229	51.788764	-9.244883	325.5	0.2
230	51.788229	-9.246049	323.6	0.1
231	51.787821	-9.247251	324.5	0.1
232	51.787448	-9.247863	327.3	0.1
233	51.786929	-9.248898	334.6	0.4
234	51.786116	-9.249285	329.7	0.2
235	51.785442	-9.250073	324.9	0.2
236	51.784712	-9.250802	321.2	0.2
237	51.784006	-9.251594	318.8	0.2
238	51.783346	-9.252397	324.0	0.2
239	51.783793	-9.253585	321.2	0.2
240	51.784573	-9.252882	317.4	0.2
241	51.785490	-9.251975	315.9	0.2
242	51.787036	-9.251149	312.4	0.2
243	51.787965	-9.250323	285.8	0
244	51.789159	-9.250857	286.2	0
245	51.789698	-9.251741	289.7	0
246	51.790330	-9.252427	286.0	0
247	51.790946	-9.253174	290.3	0.1
248	51.791382	-9.253710	278.1	0.2
249	51.778049	-9.237576	280.1	0.2
250	51.778813	-9.237039	286.6	0.3
251	51.779540	-9.236363	289.7	0.4
252	51.779747	-9.236349	284.3	0.2
253	51.777183	-9.236306	373.8	0.1
254	51.776976	-9.234838	369.0	0.3
255	51.776950	-9.233637	376.6	0.4
256	51.777190	-9.232231	377.0	0.4
257	51.776614	-9.229735	378.4	0.2
258	51.777006	-9.228288	378.7	0.3
259	51.779951	-9.226526	383.8	0.3
260	51.780397	-9.225236	386.2	0.3
261	51.782856	-9.218402	379.8	0.3
262	51.783211	-9.217246	369.5	0.3
263	51.783370	-9.215951	335.3	0.3
264	51.783723	-9.213833	332.0	1.9
265	51.784198	-9.212499	287.5	1.4
266	51.784682	-9.211364	289.6	0.5
267	51.785195	-9.210349	297.2	0.8

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
268	51.785911	-9.208484	310.3	0.3
269	51.786771	-9.207844	318.8	0.3
270	51.786693	-9.206636	327.0	0.1
271	51.786453	-9.205384	324.1	0.2
272	51.785617	-9.205163	299.4	0.2
273	51.785609	-9.205165	281.7	0.2
274	51.786622	-9.209250	264.8	0.2
275	51.786904	-9.210482	248.5	0.3
276	51.787751	-9.210962	239.6	0.2
277	51.788318	-9.210614	239.5	0.1
278	51.788643	-9.208339	301.2	0.1
279	51.788312	-9.207257	316.5	0.1
280	51.788473	-9.205984	325.4	0.2
281	51.788753	-9.204905	333.6	0.2
282	51.788822	-9.203752	310.0	0.1
283	51.788691	-9.202717	294.8	0.2
284	51.788419	-9.200793	287.2	0.2
285	51.788224	-9.198237	282.1	0.4
286	51.788399	-9.197091	275.1	0.1
287	51.788503	-9.195572	269.1	0.2
288	51.788659	-9.194367	253.1	0.2
289	51.788292	-9.193648	230.5	0.2
290	51.788317	-9.193686	225.4	0.5
291	51.788311	-9.193628	212.8	1.4
292	51.788357	-9.193633	199.6	0.7
293	51.788354	-9.193698	185.5	1
294	51.788361	-9.193727	185.4	0.3
295	51.788364	-9.193749	185.5	0.8
296	51.788382	-9.193833	185.4	0.3
297	51.786735	-9.211574	185.0	0.2
298	51.786312	-9.212736	186.2	0.2
299	51.785984	-9.214121	186.8	0.2
300	51.785885	-9.215771	188.4	1.4
301	51.785679	-9.217107	329.2	0.1
302	51.785375	-9.218482	336.0	2
303	51.784954	-9.219916	340.8	1.8
304	51.784635	-9.221122	338.9	0.2
305	51.784331	-9.222875	336.7	1.7
306	51.783852	-9.223564	335.6	0.1
307	51.783620	-9.224639	333.5	0.2
308	51.783613	-9.225738	330.8	0.1
309	51.783989	-9.227247	338.4	0.2
310	51.783509	-9.228298	349.2	0.3
311	51.783166	-9.229353	357.5	0.2

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
312	51.783040	-9.230505	364.6	0.2
313	51.782564	-9.231794	372.8	0.3
314	51.782206	-9.232846	372.1	0.2
315	51.781769	-9.233940	378.2	0.2
316	51.781643	-9.234942	381.7	0.2
317	51.781496	-9.236032	385.6	0.2
318	51.781120	-9.237080	391.6	0.2
319	51.781141	-9.237070	394.4	0.3
320	51.781161	-9.237070	402.5	0.3
321	51.780974	-9.238227	412.9	0.3
322	51.780910	-9.238334	415.0	0.3
323	51.781055	-9.239386	415.2	0.2
324	51.781069	-9.240559	414.5	0.2
325	51.781450	-9.241746	416.1	0.2
326	51.781899	-9.240894	416.5	0.2
327	51.782205	-9.239922	423.7	0.2
328	51.782688	-9.239010	424.7	0.2
329	51.783294	-9.238492	436.9	0.2
330	51.786979	-9.229147	446.2	0.2
331	51.787258	-9.228098	455.9	0.2
332	51.787651	-9.227117	471.4	0.3
333	51.788002	-9.226073	482.2	0.2
334	51.788173	-9.225282	546.6	0.2
335	51.788709	-9.223849	540.3	0.2
336	51.789238	-9.222203	525.2	0.1
337	51.789473	-9.221462	509.4	0.2
338	51.789740	-9.219796	493.8	0.2
339	51.789829	-9.217913	480.7	0.2
340	51.789850	-9.217354	461.2	0.1
341	51.789897	-9.216669	449.2	0.2
342	51.789850	-9.215260	436.3	0.2
343	51.788718	-9.214604	426.8	0.2
344	51.788258	-9.216512	424.9	0.3
345	51.788490	-9.218466	426.4	0.2
346	51.787992	-9.219387	411.8	0.2
347	51.787863	-9.220481	379.7	0.2
348	51.787759	-9.221658	382.0	0.2
349	51.787474	-9.222757	394.0	0.2
350	51.786870	-9.223767	389.3	0.2
351	51.786341	-9.224933	391.0	0.2
352	51.785865	-9.224977	399.9	0.2
353	51.785386	-9.225706	402.7	0.2
354	51.785006	-9.226914	399.1	0.2
355	51.784518	-9.228008	400.0	0.2

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
356	51.784151	-9.229529	379.8	0.2
357	51.783861	-9.230551	378.7	0.2
358	51.783571	-9.231623	385.0	0.2
359	51.783522	-9.232643	399.7	0.1
360	51.783259	-9.233806	414.2	0.1
361	51.782951	-9.235017	413.5	0.1
362	51.782509	-9.236133	414.2	0.2
363	51.782011	-9.237154	431.6	0.2
364	51.781793	-9.238047	434.7	0.2
365	51.780638	-9.237270	436.4	0.2
366	51.779897	-9.240062	434.0	0.1
367	51.779665	-9.241020	432.3	0.2
368	51.779098	-9.241823	436.6	0.2
369	51.778384	-9.242976	396.1	0.2
370	51.777932	-9.244062	381.9	0.3
371	51.777221	-9.245030	378.6	0.2
372	51.776731	-9.246220	371.5	0.2
373	51.776148	-9.247276	358.0	0.2
374	51.775482	-9.248176	345.3	0.2
375	51.775978	-9.246435	340.7	0.3
376	51.776833	-9.244611	326.6	0.1
377	51.777500	-9.243236	315.1	0.3
378	51.778035	-9.241877	305.3	0.2
379	51.778386	-9.240955	317.8	0.2
380	51.778450	-9.239652	349.6	0.2
381	51.788308	-9.193329	361.9	0.2
382	51.788485	-9.191713	367.5	0.2
383	51.788096	-9.190892	374.3	0.2
384	51.787836	-9.189937	376.8	0.2
385	51.788506	-9.188687	181.8	0.3
386	51.789054	-9.187457	173.1	0.2
387	51.789459	-9.186430	161.7	0.1
388	51.789266	-9.185188	149.3	0.2
389	51.789149	-9.183648	147.6	0.2
390	51.789011	-9.182125	148.0	0.2
391	51.789222	-9.180897	148.8	0.3
392	51.789467	-9.179411	146.4	0.1
393	51.789672	-9.177990	143.7	0.2
394	51.789450	-9.176527	145.4	0.2
395	51.788541	-9.176594	145.0	0.2
396	51.787718	-9.176843	140.9	0.2
397	51.786872	-9.176664	137.5	0.2
398	51.785992	-9.176407	123.4	0.3
399	51.785042	-9.176213	120.4	0.2

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
400	51.784169	-9.175807	124.7	0.2
401	51.783653	-9.174889	128.0	0.2
402	51.783061	-9.173801	127.2	0.2
403	51.782724	-9.172222	128.8	0.1
404	51.782504	-9.171391	124.0	0.2
405	51.781974	-9.169661	123.5	0.2
406	51.781461	-9.168456	124.0	0.1
407	51.781107	-9.167052	120.4	0.2
408	51.780802	-9.165920	120.1	0.2
409	51.779868	-9.164560	123.6	0.2
410	51.778617	-9.163126	125.3	0.3
411	51.777981	-9.162094	125.6	0.2
412	51.777033	-9.161585	126.1	0.2
413	51.776399	-9.161770	132.6	0.2
414	51.775369	-9.161661	135.7	0.2
415	51.774634	-9.160715	135.8	0.2
416	51.773863	-9.160006	127.5	0.3
417	51.773250	-9.160118	125.9	0.2
418	51.772285	-9.160177	125.7	0.2
419	51.771385	-9.159651	119.1	0.2
420	51.770323	-9.158589	111.4	0.2
421	51.769741	-9.158409	109.7	0.1
422	51.769042	-9.158070	110.4	0.2
423	51.768155	-9.157956	116.1	0.2
424	51.767478	-9.156546	110.1	0.2
425	51.767363	-9.155424	109.8	0.2
426	51.767177	-9.153912	120.5	0.1
427	51.767081	-9.152591	124.7	0.2
428	51.766675	-9.151832	129.3	0.2
429	51.766328	-9.150539	130.3	0.2
430	51.766172	-9.149635	132.3	0.2
431	51.765988	-9.148988	130.3	0.2
432	51.765881	-9.147696	133.1	0.2
433	51.765907	-9.146171	134.5	0.2
434	51.765606	-9.144281	137.4	0.1
435	51.765509	-9.141883	138.2	0.1
436	51.765613	-9.140432	138.6	0.2
437	51.765175	-9.138631	138.1	0.3
438	51.764892	-9.137620	141.0	0.3
439	51.764613	-9.136221	144.0	0.2
440	51.764424	-9.135080	142.9	0.2
441	51.764307	-9.133608	142.8	0.2
442	51.763994	-9.131753	142.7	0.1
443	51.763612	-9.131066	144.2	0.2

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
444	51.763263	-9.129687	146.3	0.2
445	51.762867	-9.128114	149.0	0.3
446	51.762632	-9.126891	148.6	0.2
447	51.762376	-9.125527	146.2	0.2
448	51.761996	-9.124293	142.0	0.2
449	51.761686	-9.122846	138.7	0.1
450	51.761407	-9.121420	135.0	0.1
451	51.761010	-9.118963	123.7	0.1
452	51.760518	-9.117086	115.9	0.2
453	51.759994	-9.115885	110.3	0.2
454	51.759577	-9.115119	108.1	0.2
455	51.759001	-9.113949	106.1	0.2
456	51.758495	-9.112741	99.6	0.3
457	51.758052	-9.111357	103.5	0.3
458	51.757775	-9.110090	109.3	0.2
459	51.757296	-9.108457	111.0	0.2
460	51.756834	-9.107389	111.3	0.2
461	51.756479	-9.106488	110.0	0.2
462	51.755960	-9.104759	109.6	0.2
463	51.755517	-9.103883	98.3	0.2
464	51.754805	-9.103124	94.9	0.1
465	51.754149	-9.102073	99.6	0.2
466	51.753501	-9.101530	100.4	0.1
467	51.752445	-9.100922	99.9	0.2
468	51.752058	-9.099878	96.9	0.2
469	51.752430	-9.098803	92.8	0.2
470	51.752379	-9.097860	86.8	0.2
471	51.751941	-9.096424	80.1	0.2
472	51.751284	-9.095732	81.0	0.2
473	51.749967	-9.094498	79.8	0.2
474	51.748923	-9.092612	77.7	0.1
475	51.747950	-9.092257	76.5	0.2
476	51.747413	-9.092135	75.4	0.2
477	51.746633	-9.092269	74.9	0.2
478	51.745830	-9.092401	74.9	0.3
479	51.745080	-9.092507	76.5	0.2
480	51.744048	-9.092911	77.0	0.3
481	51.743256	-9.092898	75.2	0.2
482	51.742282	-9.092784	77.3	0.1
483	51.741422	-9.092721	77.7	0.2
484	51.740522	-9.092967	85.6	0.1
485	51.739655	-9.093199	89.2	0.2
486	51.738773	-9.092944	89.8	0.2
487	51.737718	-9.092877	89.6	0.2

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
488	51.737058	-9.093175	87.0	0.2
489	51.736165	-9.093248	86.1	0.2
490	51.735144	-9.092428	84.2	0.1
491	51.734523	-9.091891	78.8	0.2
492	51.733681	-9.091532	75.3	0.2
493	51.732715	-9.090822	71.2	0.2
494	51.732041	-9.090231	70.7	0.2
495	51.731203	-9.089551	68.8	0.2
496	51.730349	-9.089602	68.0	0.1
497	51.729268	-9.090130	67.4	0.2
498	51.728708	-9.090747	67.0	0.1
499	51.727761	-9.091702	66.7	0.1
500	51.727034	-9.092119	72.2	0.2
501	51.726088	-9.092227	76.9	0.2
502	51.725133	-9.092596	76.0	0.2
503	51.724031	-9.092196	76.3	0.2
504	51.723820	-9.089540	76.0	0.2
505	51.769635	-9.242722	212.7	0.1
506	51.770372	-9.241168	235.1	0.1
507	51.770374	-9.241177	235.3	0.4
508	51.770870	-9.239806	257.5	0
509	51.771516	-9.238665	257.4	0
510	51.772064	-9.237380	263.9	0.6
511	51.772592	-9.236107	276.5	0.1
512	51.773147	-9.234915	260.2	0
513	51.773515	-9.233578	269.3	0
514	51.774039	-9.232390	275.1	0
515	51.774527	-9.231150	271.2	0
516	51.775000	-9.229888	283.7	0
517	51.775423	-9.228581	298.1	0
518	51.775819	-9.227262	309.9	0
519	51.776239	-9.225935	320.4	0
520	51.776682	-9.224602	316.0	0
521	51.777174	-9.223314	318.8	0
522	51.777689	-9.222051	327.8	0.1
523	51.778270	-9.220923	329.9	0.1
524	51.778926	-9.219898	327.5	0.1
525	51.779561	-9.218809	312.8	0
526	51.780268	-9.217932	287.5	0.3
527	51.780850	-9.216767	263.7	0.2
528	51.781101	-9.218169	236.0	0.2
529	51.780490	-9.219443	224.4	0.2
530	51.779771	-9.220312	243.8	0
531	51.778965	-9.221231	251.2	0.3

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
532	51.778510	-9.222535	267.4	0.1
533	51.778136	-9.223900	290.6	0.3
534	51.777732	-9.225489	310.2	0.2
535	51.776985	-9.226498	330.0	0.2
536	51.776602	-9.227834	343.1	0.2
537	51.776235	-9.229618	345.2	0.1
538	51.775838	-9.230962	358.0	0
539	51.775388	-9.232280	370.1	0.1
540	51.774825	-9.233520	366.5	0.1
541	51.774289	-9.234834	368.9	0.1
542	51.773904	-9.236240	356.6	0.3
543	51.773708	-9.237698	352.0	0.1
544	51.772914	-9.239156	361.3	0.2
545	51.772177	-9.240108	374.0	0.1
546	51.771738	-9.241432	348.8	0.2
547	51.771311	-9.242621	319.2	0.2
548	51.771384	-9.241879	292.4	0.1
549	51.770859	-9.242452	276.9	0.8
550	51.770426	-9.243116	280.5	0.1
551	51.770299	-9.244247	269.9	0.3
552	51.771087	-9.244789	249.7	0
553	51.772260	-9.242423	236.0	0
554	51.772694	-9.241122	248.4	0.5
555	51.773492	-9.240281	285.8	0.3
556	51.774001	-9.239077	312.1	0.2
557	51.774160	-9.238389	336.9	0.2
558	51.774621	-9.237119	358.2	0.8
559	51.775138	-9.235716	373.1	1.1
560	51.775582	-9.234388	382.8	0.1
561	51.776130	-9.233049	392.5	0.2
562	51.776685	-9.231769	396.0	0
563	51.776580	-9.232482	398.2	0.1
564	51.777053	-9.232616	399.6	0.6
565	51.776145	-9.232258	397.0	0.7
566	51.776322	-9.231335	397.4	0.7
567	51.776969	-9.230994	392.7	0.2
568	51.777447	-9.231250	395.3	0.3
569	51.777291	-9.231927	395.5	0.6
570	51.776529	-9.230720	395.0	0.1
571	51.777115	-9.230257	386.8	0.4
572	51.777475	-9.228846	389.8	0
573	51.778031	-9.227577	393.2	0
574	51.778576	-9.226315	390.7	0.1
575	51.778987	-9.224936	380.4	0.1

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
576	51.778922	-9.225690	357.5	0.2
577	51.778465	-9.225673	339.3	1
578	51.779374	-9.225848	329.1	1.4
579	51.779449	-9.225089	334.4	0.4
580	51.779041	-9.224171	338.9	0.1
581	51.779526	-9.222877	327.7	0.4
582	51.780108	-9.221703	324.3	0.2
583	51.780721	-9.220626	324.7	0.4
584	51.781392	-9.219246	309.1	0.1
585	51.782074	-9.218259	291.4	0
586	51.782258	-9.219720	271.2	0.1
587	51.781850	-9.221034	255.3	0.1
588	51.781316	-9.222397	260.2	0.2
589	51.780894	-9.223702	292.7	0.7
590	51.780853	-9.225277	305.7	0
591	51.780339	-9.226912	321.7	0.3
592	51.779563	-9.227628	329.9	0.5
593	51.779624	-9.226856	338.5	0.3
594	51.779112	-9.227581	339.7	1.9
595	51.778677	-9.228860	340.6	0.2
596	51.778147	-9.230123	337.1	2
597	51.778412	-9.231730	338.8	0.2
598	51.778029	-9.233074	342.1	0.2
599	51.777368	-9.234102	361.6	0.3
600	51.776808	-9.235320	362.4	1.1
601	51.776289	-9.236612	369.4	0.1
602	51.775527	-9.237488	380.6	0.8
603	51.775112	-9.238848	382.6	2
604	51.774689	-9.240242	387.2	1.1
605	51.774196	-9.241545	386.7	0.9
606	51.773392	-9.242455	375.5	0
607	51.773032	-9.243884	362.8	0
608	51.772562	-9.245136	337.2	0
609	51.771752	-9.245735	326.5	0.2
610	51.791248	-9.254896	309.0	0
611	51.790138	-9.255295	292.3	0
612	51.789862	-9.256515	266.2	0.1
613	51.789574	-9.258082	271.3	0.1
614	51.789220	-9.259092	251.2	0.1
615	51.788608	-9.259236	226.6	0.2
616	51.789360	-9.259973	210.1	0.3
617	51.789364	-9.259964	200.6	0.5
618	51.788932	-9.262363	195.9	0.2
619	51.788607	-9.263917	196.5	0.3

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
620	51.788146	-9.265662		0.1
621	51.787715	-9.268135	194.8	0.1
622	51.789216	-9.270610	186.9	0.1
623	51.788003	-9.270009	185.2	0.1
624	51.787051	-9.269638	175.7	0.1
625	51.787035	-9.269618	176.5	0.1
626	51.786965	-9.265319	173.8	0.9
627	51.787128	-9.264081	174.0	0.5
628	51.787493	-9.263390	175.1	0.1
629	51.787560	-9.263248	178.4	0.1
630	51.788235	-9.262014	180.8	0.1
631	51.788162	-9.261288	182.5	0.1
632	51.788214	-9.259642	186.0	0.1
633	51.788399	-9.259127	184.6	0.4
634	51.788819	-9.257841	183.9	0.5
635	51.789117	-9.256875	185.8	0.1
636	51.789269	-9.256244	189.8	0.1
637	51.788499	-9.256119	191.0	1
638	51.788660	-9.254812	200.9	0.1
639	51.789458	-9.255198	212.9	0.1
640	51.789600	-9.253859	224.4	0.4
641	51.788696	-9.253802	210.5	0.5
642	51.788676	-9.253800	228.6	0.1
643	51.788668	-9.253799	241.8	0.1
644	51.787387	-9.259648	253.0	0.1
645	51.787075	-9.258706	239.0	0.1
646	51.787880	-9.258948	238.0	0.1
647	51.787071	-9.257863	238.0	0.1
648	51.788219	-9.258484	237.6	0.1
649	51.787887	-9.257898	237.3	0.3
650	51.788040	-9.257886	237.3	0.1
651	51.787994	-9.256582	235.9	0.1
652	51.788031	-9.255469	255.7	0.1
653	51.787559	-9.255031	192.3	0.1
654	51.786998	-9.255022	196.3	0.1
655	51.787290	-9.255500	192.0	0.1
656	51.787837	-9.254765	196.4	0.1
657	51.787017	-9.254747	205.4	0.1
658	51.786612	-9.255530	195.8	0.2
659	51.786213	-9.256047	197.3	0.1
660	51.786085	-9.256634	201.2	0.1
661	51.785265	-9.256008	209.4	0.1
662	51.784791	-9.254958	223.4	0.1
663	51.785246	-9.253126	227.3	0.2

Gortloughra Walkover 14th to 16th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
664	51.785637	-9.254358	226.7	0.1
665	51.786067	-9.255120	218.2	0.2
666	51.787160	-9.254431	227.3	0.1
667	51.786521	-9.253642	230.6	0.1
668	51.786392	-9.252898	225.5	0.1
669	51.786384	-9.252894	223.5	0.3
670	51.786891	-9.251906	220.7	0.5
671	51.787678	-9.251831	239.4	0.8
672	51.787779	-9.253346	254.8	0.4
673	51.788301	-9.252009	270.5	0.8
674	51.789031	-9.252154	257.6	0.6
675	51.789338	-9.253305	238.8	0.1
676	51.789691	-9.254381	231.3	0.1
677	51.789344	-9.255589	250.0	0.1
678	51.788626	-9.255487	261.4	0.1
679	51.789452	-9.256590	261.6	0.4
680	51.789908	-9.255226	271.4	0.1

Gortloughra Walkover 28th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
474	51.777269	-9.238687	381.7	0.3
475	51.777596	-9.237743	380.3	0.2
476	51.776967	-9.237926	381.8	2.2
477	51.776363	-9.238393	382.1	0.3
478	51.775919	-9.238704	378.8	0.2
479	51.775361	-9.240206	361.4	0.8
480	51.775236	-9.24134	356.9	0.2
481	51.77525	-9.242443	343.1	0.3
482	51.775362	-9.243155	340.1	0.2
483	51.776157	-9.24333	353.0	0.3
484	51.776393	-9.242305	365.3	0.4
485	51.776574	-9.241128	374.3	0.3
486	51.776784	-9.239879	381.2	0.3
487	51.77786	-9.237192	378.3	1.5
488	51.778	-9.235841	374.6	2.4
489	51.778208	-9.234353	369.8	1.9
490	51.778709	-9.233097	360.0	0.9
491	51.780049	-9.231982	344.7	1.5
492	51.780017	-9.231951	344.3	1.5
493	51.78017	-9.230654	344.0	0.5
494	51.780127	-9.229701	338.7	3.6

Gortloughra Walkover 28th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
495	51.780527	-9.228644	338.6	1.3
496	51.780881	-9.227708	344.1	0.2
497	51.781422	-9.226825	348.4	0.1
498	51.782035	-9.225841	354.0	0.2
499	51.782572	-9.224478	350.0	1.4
500	51.782863	-9.222985	338.4	0.4
501	51.783206	-9.221761	336.8	0.1
502	51.783626	-9.220598	327.6	1.6
503	51.783908	-9.219424	328.9	0.2
504	51.784194	-9.218181	332.4	0.3
505	51.784356	-9.216814	334.2	0.4
506	51.784868	-9.21619	340.4	1.8
507	51.785173	-9.215257	341.1	0.8
508	51.785104	-9.214345	342.9	0.3
509	51.784672	-9.214712	330.5	0.3
510	51.78519	-9.214166	338.7	1.1
511	51.785464	-9.214651	341.5	0.6
512	51.785683	-9.21521	339.2	0.3
513	51.785779	-9.214292	341.7	0.2
514	51.785784	-9.214283	342.1	0.2
515	51.785344	-9.212563	339.8	0.2
516	51.785629	-9.211178	329.1	0.3
517	51.785855	-9.210194	320.8	0.2
518	51.787325	-9.21158	327.7	0.1
519	51.788201	-9.211821	346.1	0.2
520	51.787914	-9.213007	359.1	0.4
521	51.788092	-9.21387	366.9	0.4
522	51.786994	-9.215133	362.3	0.3
523	51.786704	-9.216397	367.9	0.2
524	51.786737	-9.217614	364.9	0.1
525	51.786466	-9.218874	348.8	0.4
526	51.786092	-9.219818	344.5	2.2
527	51.785737	-9.220972	339.7	1.5
528	51.785392	-9.221889	339.2	3.5
529	51.785444	-9.222331	339.0	1.8
530	51.785097	-9.223137	340.6	3.6
531	51.784846	-9.224363	346.3	0.3
532	51.784416	-9.224957	351.6	0.8
533	51.783128	-9.22534	365.0	0.6
534	51.782723	-9.227343	367.8	1.7
535	51.782182	-9.228533	362.7	1.8
536	51.782011	-9.229644	363.4	0.3
537	51.781526	-9.230405	357.4	0.3
538	51.780805	-9.231668	362.1	0.5

Gortloughra Walkover 28th June 2021				
Point ID	Latitude	Longitude	Elevation	Probe Depth
539	51.78048	-9.232963	367.6	0.5
540	51.780124	-9.234432	378.4	0.2
541	51.780673	-9.235884	397.2	0.2
542	51.780388	-9.236894	400.4	0.6
543	51.780219	-9.237464	399.8	0.3
544	51.77989	-9.238599	390.5	2.5
545	51.77966	-9.239265	387.1	1.2
546	51.778991	-9.240163	381.0	0.9
547	51.779908	-9.241875	389.6	0.1
548	51.780239	-9.239895	391.0	0.9
549	51.78029	-9.239292	389.9	0.6
550	51.780057	-9.238841	391.6	1.9
551	51.779075	-9.238388	380.7	1.8
552	51.778429	-9.238411	381.0	0.8
553	51.777742	-9.238519	384.2	2.3
554	51.777684	-9.239177	383.4	2.7
555	51.774818	-9.245225	305.0	0.1
556	51.774073	-9.247936	298.1	0.6
557	51.773646	-9.249103	296.0	0.4
558	51.773212	-9.248371	293.0	0.1
559	51.773804	-9.245896	296.5	0.2
560	51.773776	-9.244731	307.1	0.2

Gortloughra Walkover. 9th to 10th April 2022				
Point ID	Latitude	Longitude	Elevation	Probe Depth
1	51.775999	-9.244462	341.9	0.1
2	51.776256	-9.244671	341.7	0.1
3	51.776576	-9.244977	344.0	0.1
4	51.776428	-9.245296	337.7	0.1
5	51.775697	-9.244969	334.3	0.1
6	51.784017	-9.226711	334.3	0.1
7	51.783948	-9.22606	356.4	0.3
8	51.783896	-9.225507	359.4	0.2
9	51.784	-9.224347	353.3	0.1
10	51.784027	-9.223801	348.1	0.1
11	51.785724	-9.213549	340.7	0.2
12	51.78584	-9.212742	339.5	0.2
13	51.786042	-9.211815	332.4	0.1
14	51.788472	-9.216573	391.9	0.5
15	51.788745	-9.216698	398.3	0.1
16	51.788743	-9.216689	398.5	0.1
17	51.788515	-9.216935	392.7	0.1
18	51.788465	-9.21635	390.5	0.1

Gortloughra Walkover. 9th to 10th April 2022				
Point ID	Latitude	Longitude	Elevation	Probe Depth
19	51.788533	-9.215661	386.1	0.2
20	51.788263	-9.215823	383.9	0.3
21	51.788133	-9.217136	383.1	0.2
22	51.788121	-9.217898	384.1	0.2
23	51.788119	-9.217893	383.7	0.2
24	51.787602	-9.217782	374.6	0.2
25	51.787346	-9.218081	373.0	0.9
26	51.787075	-9.218331	367.5	0.1
27	51.786834	-9.218635	359.5	0.1
28	51.786553	-9.219223	352.0	0.2
29	51.786352	-9.219727	345.4	0.6
30	51.785985	-9.220627	340.5	1.5
31	51.785833	-9.221272	338.4	1.8
32	51.785676	-9.22169	337.6	1.5
33	51.785674	-9.221681	337.6	3.3
34	51.78543	-9.223152	339.8	0.8
35	51.785411	-9.223147	340.0	0.8
36	51.785396	-9.223406	343.0	0.2
37	51.7852	-9.223724	345.1	1
38	51.785139	-9.224283	350.9	0.3
39	51.784971	-9.224138	344.9	1.2
40	51.784985	-9.223663	341.8	0.9
41	51.785286	-9.222984	338.8	1.8
42	51.785091	-9.222232	341.0	1.8
43	51.78468	-9.221981	340.4	3.3
44	51.780759	-9.232027	363.4	0.5
45	51.780849	-9.231834	362.9	0.1
46	51.780876	-9.232135	365.6	0.3
47	51.780713	-9.232255	364.4	0.8
48	51.780625	-9.23196	358.9	0.1
49	51.781059	-9.231232	359.2	0.7
50	51.781171	-9.231755	369.9	0.1
51	51.781071	-9.232323	372.2	0.6
52	51.780878	-9.232828	375.8	0.4
53	51.780523	-9.233668	380.1	0.3
54	51.779799	-9.234681	372.7	0.1
55	51.779706	-9.235696	382.8	0.1
56	51.779749	-9.237049	389.1	0.1
57	51.779672	-9.237895	391.0	0.6
58	51.779851	-9.238039	394.9	0.2
59	51.78004	-9.23785	399.4	0.7
60	51.780082	-9.238512	395.0	1
61	51.78015	-9.238683	394.2	2.6
62	51.780378	-9.238749	393.2	0.1

Gortloughra Walkover. 9th to 10th April 2022				
Point ID	Latitude	Longitude	Elevation	Probe Depth
63	51.780295	-9.238729	394.1	1.8
64	51.780204	-9.238914	394.2	1.5
65	51.780153	-9.240866	394.5	0.1
66	51.779585	-9.243693	399.0	0.1
67	51.77947	-9.244701	405.0	0.7
68	51.77978	-9.245349	419.4	0.7
69	51.781384	-9.235266	406.2	0.1
70	51.778208	-9.227343	351.3	0.1
71	51.778181	-9.227678	352.7	0.2
72	51.778387	-9.227387	346.7	0.2
73	51.778223	-9.22708	349.5	0.2
74	51.778125	-9.226628	346.6	0.1
75	51.778321	-9.226187	341.6	0.7
76	51.778423	-9.228039	348.9	0.2
77	51.778395	-9.229341	352.8	0.8
78	51.77805	-9.230586	365.5	0.6
79	51.777635	-9.23191	377.8	0.6
80	51.776834	-9.234084	391.6	0.7
81	51.776395	-9.23384	397.6	1.6
82	51.776157	-9.233872	402.0	0.3
83	51.775875	-9.233946	402.2	0.2
84	51.775364	-9.235714	401.4	0.5
85	51.775456	-9.235409	402.2	0.5
86	51.775205	-9.235537	398.8	0.2
87	51.775219	-9.23588	399.5	0.2
88	51.775031	-9.236424	396.8	0.4
89	51.774722	-9.23656	394.4	0.6
90	51.774791	-9.236102	395.9	0.5
91	51.774836	-9.23569	392.9	0.2
92	51.774895	-9.235175	393.4	0.9
93	51.789314	-9.254624	241.0	0.7
94	51.789192	-9.254944	237.9	1.1
95	51.789948	-9.253779	261.9	0.1
96	51.789873	-9.253062	266.2	0.1
97	51.789768	-9.252328	271.2	0.2
98	51.7896	-9.251651	273.6	0.1
99	51.788829	-9.250422	277.0	0.1
100	51.788362	-9.250424	282.1	0.2
101	51.787567	-9.250585	288.7	0.1
102	51.787065	-9.250603	293.2	0.1
103	51.78667	-9.250557	295.5	0.2
104	51.78655	-9.249876	308.8	0.2
105	51.786601	-9.249307	316.5	0.1
106	51.786283	-9.248803	328.0	0.2

Gortloughra Walkover. 9th to 10th April 2022				
Point ID	Latitude	Longitude	Elevation	Probe Depth
107	51.785834	-9.248809	337.1	0.2
108	51.785783	-9.248841	337.6	0.2
109	51.785384	-9.248731	341.0	1.5
110	51.784984	-9.248709	349.3	1.7
111	51.784627	-9.248536	357.9	0.1
112	51.784425	-9.248119	363.5	0.3
113	51.784261	-9.247605	360.2	1.2
114	51.784224	-9.246858	361.0	0.2
115	51.784355	-9.246214	364.9	0.6
116	51.784348	-9.246234	367.3	0.6
117	51.784754	-9.246074	371.1	0.7
118	51.785052	-9.246048	375.9	0.2
119	51.785462	-9.246428	370.5	0.2
120	51.785629	-9.246317	370.0	0.1
121	51.785313	-9.246227	378.5	0.2
122	51.785194	-9.24667	374.6	0.2
123	51.78539	-9.24688	362.9	0.3
124	51.785718	-9.246449	365.1	0.2
125	51.786124	-9.246312	367.0	0.2
126	51.785998	-9.245713	373.0	0.2
127	51.78541	-9.245845	377.8	0.1
128	51.790121	-9.254541	261.4	0.1
129	51.79002	-9.253956	267.5	0.1
130	51.789877	-9.25338	271.2	0.1
131	51.789791	-9.252339	279.2	0.1
132	51.788289	-9.249824	295.1	0.1
133	51.788016	-9.249363	306.2	0.2
134	51.787805	-9.248845	314.4	0.2
135	51.787476	-9.248534	321.8	0.1
136	51.787288	-9.248175	332.8	0.1
137	51.786853	-9.248133	341.0	0.1
138	51.786865	-9.24812	341.1	0.1
139	51.786545	-9.247979	346.2	0.1
140	51.786596	-9.247339	354.9	0.1
141	51.786758	-9.246718	359.6	0.1
142	51.78667	-9.246136	366.8	0.1
143	51.7865	-9.245563	375.5	0.1
144	51.786435	-9.244924	384.4	0.1
145	51.78633	-9.244292	395.7	0.1
146	51.786324	-9.243611	400.1	0.1
147	51.786167	-9.242927	406.2	0.1
148	51.786107	-9.242087	416.9	0.1
149	51.786021	-9.241282	423.2	0.1
150	51.785499	-9.240943	434.0	0.1

Gortloughra Walkover. 9th to 10th April 2022				
Point ID	Latitude	Longitude	Elevation	Probe Depth
151	51.785567	-9.240452	433.0	0.1
152	51.785716	-9.239898	441.3	0.1
153	51.786661	-9.238169	453.4	0.2
154	51.786542	-9.238391	448.4	0.2
155	51.78675	-9.238463	446.4	0.2
156	51.786624	-9.238088	449.1	0.2
157	51.786876	-9.237815	455.9	0.2
158	51.787163	-9.237361	454.9	0.2
159	51.787037	-9.237069	456.6	0.4
160	51.786861	-9.237139	461.5	0.7
161	51.786756	-9.237008	459.6	1.3
162	51.786528	-9.237331	460.0	0.2
163	51.786588	-9.237721	451.1	0.2
164	51.78627	-9.237882	459.9	0.2
165	51.786182	-9.238368	450.2	0.2
166	51.785968	-9.238763	451.7	0.2
167	51.785748	-9.239129	448.3	0.2
168	51.785433	-9.239769	444.7	0.2
169	51.785234	-9.240286	431.2	0.2
170	51.785009	-9.241093	418.4	0.2
171	51.785072	-9.241558	409.3	0.3
172	51.785461	-9.242906	397.8	0.2
173	51.78564	-9.243541	397.9	0.1
174	51.785797	-9.244203	392.1	0.1
175	51.785524	-9.2448	390.5	0.1
176	51.785105	-9.24524	374.2	0.2
177	51.784781	-9.245773	365.9	0.8
178	51.784412	-9.245985	361.7	0.7
179	51.784232	-9.245635	362.1	0.2
180	51.784166	-9.245169	368.9	0.2
181	51.783949	-9.244717	377.8	0.2
182	51.783542	-9.244528	386.6	0.2
183	51.78306	-9.244388	401.1	0.2
184	51.782612	-9.244507	406.2	0.2
185	51.782061	-9.244666	403.1	0.2
186	51.781497	-9.245033	405.6	0.3
187	51.781221	-9.24537	408.9	0.4
188	51.780809	-9.245618	416.5	0.2
189	51.780511	-9.245945	414.5	0.2
190	51.780228	-9.245944	421.1	0.2

Gortloughra Wind Farm. Site Walkover 20th December 2022.				
Point ID	Latitude	Longitude	Elevation	Probe Depth
1	51.773943	-9.249363	291.6	3.6
2	51.773963	-9.250154	306.7	0.2
3	51.773759	-9.251202	316.9	0.3
4	51.774343	-9.25192	314.7	0.4
5	51.775289	-9.251221	314.4	0.2
6	51.775827	-9.249998	309.7	0.2
7	51.77634	-9.25017	335.7	0.2
8	51.775919	-9.251412	343.6	0.1
9	51.775272	-9.253307	344.2	0.3
10	51.776258	-9.253031	377.9	0.3
11	51.777074	-9.25176	392.5	0.2
12	51.777441	-9.251645	406.2	0.3
13	51.777822	-9.252144	433.0	0.3
14	51.777364	-9.253457	438.6	0.8
15	51.77727	-9.254777	427.4	0.3
16	51.777822	-9.253717	422.4	1.2
17	51.778383	-9.253029	417.1	0.6
18	51.778689	-9.253429	403.3	0.3
19	51.778986	-9.253905	392.4	0.3
20	51.778983	-9.253899	392.1	0.9
21	51.778463	-9.25399	405.6	0.4
22	51.778463	-9.253991	405.4	0.4
23	51.778225	-9.255117	407.4	1
24	51.777418	-9.256791	402.6	1.7
25	51.777774	-9.258302	380.9	0.7
26	51.778497	-9.257416	379.2	0.7
27	51.778606	-9.258872	371.5	0.2
28	51.778368	-9.260119	363.0	0.1
29	51.779032	-9.260175	344.2	0.2
30	51.779476	-9.260667	337.2	0.2
31	51.779725	-9.259869	333.1	0.2
32	51.77964	-9.258589	333.6	0.2
33	51.779663	-9.25753	339.8	0.2
34	51.779163	-9.258068	356.6	0.2
35	51.779378	-9.256496	365.6	0.2
36	51.77952	-9.254848	366.2	0.6
37	51.779795	-9.253514	369.9	0.3
38	51.780049	-9.252385	373.3	0.3
39	51.780262	-9.251441	374.5	0.3
40	51.780411	-9.250579	370.2	0.3
41	51.780395	-9.250629	370.1	0.6
42	51.781301	-9.248606	359.0	0.2
43	51.781063	-9.249067	360.8	0.2
44	51.780706	-9.248723	375.9	0.2

Gortloughra Wind Farm. Site Walkover 20th December 2022.				
Point ID	Latitude	Longitude	Elevation	Probe Depth
45	51.780142	-9.249736	388.2	0.2
46	51.779654	-9.25098	396.0	0.2
47	51.779371	-9.251582	400.6	0.3
48	51.779109	-9.252068	401.4	0.3
49	51.778858	-9.25281	399.9	0.3
50	51.778995	-9.251919	409.2	0.2
51	51.779073	-9.251281	414.4	0.2
52	51.779189	-9.250416	417.6	0.2
53	51.779445	-9.249441	416.2	0.2
54	51.779492	-9.248394	413.7	0.2
55	51.779554	-9.247204	414.2	0.2
56	51.77962	-9.246482	412.7	0.2
57	51.77922	-9.247401	423.9	0.2
58	51.778888	-9.248103	432.5	0.1
59	51.778603	-9.249387	442.6	0.1
60	51.77825	-9.250625	439.2	0.1
61	51.777374	-9.250366	368.0	0.3
62	51.777384	-9.250357	368.7	0.3
63	51.777379	-9.250361	368.7	0.3
64	51.777435	-9.24921	358.8	0.3
65	51.777801	-9.247961	357.4	0.3
66	51.778044	-9.246954	359.7	0.3
67	51.77838	-9.245705	365.8	0.6
68	51.7786	-9.244974	364.6	0.4
69	51.778758	-9.243863	365.3	0.2
70	51.779036	-9.242818	366.8	0.2
71	51.786629	-9.220004	334.9	0.2
72	51.78652	-9.219835	337.5	0.2
73	51.786727	-9.21981	341.7	0.2
74	51.786745	-9.220241	340.3	0.2
75	51.786464	-9.220295	337.1	0.2
76	51.775283	-9.234032	383.1	1.3
77	51.775567	-9.233984	387.2	0.2
78	51.775657	-9.233748	388.9	0.3
79	51.775278	-9.243044	334.7	0.4
80	51.775176	-9.24295	333.5	0.3

Gortloughra Walkover. 8th June 2023.						
Point ID	Latitude	Longitude	Elevation	Probe Depth	Shear Strength (kPa)	Slope °
1	51.78277	-9.22727	373.3	1	20	2
2	51.78276	-9.22727	372.7	1	20	3
3	51.78296	-9.22741	373.2	1.1	25	3
4	51.78261	-9.22717	371.8	1.1	25	3
5	51.78267	-9.22749	371.7	1.1	20	3
6	51.78286	-9.22705	373.0	0.3		
7	51.78315	-9.22666	376.1	0.7		
8	51.78291	-9.22627	372.5	0.3		
9	51.78281	-9.22667	373.3	0.5	25	10
10	51.78247	-9.2268	369.9	0.2		
11	51.78482	-9.24146	428.5	0.2		
12	51.78458	-9.24216	426.4	0.2		
13	51.78439	-9.2429	414.4	0.3		
14	51.78446	-9.2442	398.9	0.2		
15	51.78437	-9.24474	385.4	0.2		
16	51.78452	-9.24487	383.6	0.2		
17	51.78447	-9.24491	380.8	0.2		
18	51.78429	-9.24486	381.2	0.2		
19	51.78376	-9.24541	377.3	0.3		
20	51.78296	-9.24575	379.4	0.2		
21	51.78223	-9.24591	385.2	0.1		
22	51.7816	-9.24647	389.1	0.2		
23	51.78107	-9.24718	393.0	0.2		
24	51.78054	-9.2479	402.1	0.3		
25	51.78027	-9.24866	401.3	0.3		
26	51.7796	-9.2516	396.0	0.2		
27	51.7795	-9.25209	395.8	0.2		
28	51.77916	-9.25245	401.6	0.1		
29	51.77881	-9.25253	415.4	0.1		
30	51.77884	-9.2535	402.3	0.2	28	10
31	51.77889	-9.25321	399.3	0.3		
32	51.77912	-9.25296	400.0	0.9	25	10
33	51.77922	-9.25264	399.5	0.2		
34	51.77928	-9.25321	396.5	0.2		
35	51.77928	-9.25321	396.1	0.2		
36	51.77926	-9.25424	386.9	0.2		
37	51.77987	-9.25537	361.3	0.2		
38	51.78025	-9.256	344.9	0.2		
39	51.78068	-9.25667	330.8	0.2		
40	51.78111	-9.25751	322.1	0.2		
41	51.78146	-9.25828	306.8	0.2		
42	51.78182	-9.25903	298.5	0.2		
43	51.78222	-9.25983	288.3	0.2		

Gortloughra Walkover. 8th June 2023.						
Point ID	Latitude	Longitude	Elevation	Probe Depth	Shear Strength (kPa)	Slope °
44	51.78225	-9.25992	286.5	0.2		
45	51.78263	-9.26022	276.2	0.2		
46	51.78312	-9.26064	257.3	0.2		
47	51.78386	-9.26095	237.6	0.2		
48	51.78416	-9.26041	232.6	0.2		
49	51.78486	-9.26082	216.6	0.2		
50	51.78576	-9.25773	215.9	0.2		
51	51.78988	-9.25652	228.0	0.2		
52	51.79046	-9.25444	259.6	0.2		
53	51.79075	-9.2541	268.2	0.2		
54	51.79104	-9.25434	266.9	0.2		
55	51.79063	-9.25407	269.6	0.2		
56	51.79032	-9.25383	267.6	0.2		
57	51.7902	-9.25379	266.6	0.2		

Gortloughra Walkover. July 1st 2023.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
1	51.785496	-9.214500	342.7	5	0.6	25
2	51.785178	-9.214124	342.4	6	1.1	25
3	51.784295	-9.214401	328.0		0.1	
4	51.785194	-9.215289	336.6		0.1	
5	51.784909	-9.220610	336.4	3	0.8	10
6	51.785386	-9.220369	342.8	2	1	12
7	51.785812	-9.220492	340.1	1	3.8	16
8	51.785820	-9.219846	342.8	1	1.1	20
9	51.786078	-9.219863	343.2	3	0.6	30
10	51.786360	-9.219680	343.9		0.1	
11	51.786216	-9.220268	339.4		0.1	
12	51.786361	-9.220649	337.1	3	0.6	20
13	51.783418	-9.225993	365.1		0.1	
14	51.783161	-9.226632	369.5	3	0.7	30
15	51.782769	-9.227075	365.3	2	0.7	12
16	51.782797	-9.227249	365.1	3	1.1	12
17	51.782731	-9.227306	364.2	2	1.7	30
18	51.782635	-9.227184	364.0	2	0.7	16
19	51.782873	-9.227471	364.4	2	1.3	10
20	51.782731	-9.227138	365.0	2	1.1	18
21	51.779991	-9.237102	393.5		0.1	
22	51.779806	-9.238394	389.6	5	1.1	20
23	51.779704	-9.238449	387.1	5	1	20

Gortloughra Walkover. July 1st 2023.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
24	51.779736	-9.238863	389.4	5	0.8	30
25	51.780015	-9.238966	390.0	2	1.3	25
26	51.779893	-9.238625	391.5	2	2.5	18
27	51.778339	-9.226222	343.1	5	0.7	30
28	51.778363	-9.226959	339.9		0.2	
29	51.778587	-9.227018	336.6		0.2	
30	51.776589	-9.231402	394.6	3	0.7	20
31	51.776131	-9.232295	390.8	6	0.7	30
32	51.775794	-9.233129	392.0	6	0.7	30
33	51.775273	-9.233982	387.5	5	1.3	22
34	51.775723	-9.234042	395.9		0.2	
35	51.775953	-9.234292	398.5		0.2	
36	51.775949	-9.234624	396.3	3	1.7	16
37	51.776407	-9.233818	395.9	2	1.6	10
38	51.777180	-9.232352	389.8	5	0.6	30
39	51.776954	-9.234082	385.8	5	0.7	30
40	51.777064	-9.235182	383.0	4	1.1	20
41	51.777211	-9.236480	384.1	5	0.6	25
42	51.790295	-9.255396	245.7		0.1	
43	51.789882	-9.256792	222.0		0.1	
44	51.789715	-9.258200	213.1		0.4	
45	51.789457	-9.259727	200.4		0.2	
46	51.789205	-9.260981	190.9		0.2	
47	51.788954	-9.262388	192.6		0.3	
48	51.788685	-9.263789	190.9		0.1	
49	51.788655	-9.263940	191.0		0.1	
50	51.788380	-9.265065	190.1		0.2	
51	51.787939	-9.266465	180.0		0.1	
52	51.787560	-9.267669	174.5		0.2	
53	51.787169	-9.268927	170.2		0.2	
54	51.786765	-9.270292	171.5		0.3	
55	51.786404	-9.271719	171.9		0.2	
56	51.786091	-9.273112	162.8		0.2	
57	51.785723	-9.274382	162.5		0.1	
58	51.785392	-9.275703	166.2		0.1	
59	51.785093	-9.277024	171.7		0.2	
60	51.784687	-9.278634	182.3		0.3	
61	51.784406	-9.279682	190.6		0.3	
62	51.784333	-9.279926	192.0		0.2	
63	51.783938	-9.281076	198.4		0.2	
64	51.783495	-9.282192	205.0		0.2	
65	51.782949	-9.283599	210.8		0.2	
66	51.782550	-9.284418	211.7		0.1	

Gortloughra Walkover. July 1st 2023.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
67	51.781972	-9.285560	214.3		0.2	
68	51.781410	-9.286708	217.6		0.2	
69	51.780881	-9.287848	223.3		0.2	
70	51.780310	-9.289095	222.7		0.1	
71	51.779789	-9.290228	218.9		0.2	
72	51.779235	-9.291322	215.8		0.2	
73	51.778662	-9.292411	219.0		0.3	
74	51.778038	-9.293468	219.5		0.2	
75	51.777325	-9.294619	216.7		0.2	
76	51.776720	-9.295616	213.8		0.2	
77	51.776087	-9.296800	209.6		0.2	
78	51.775621	-9.297991	207.2		0.2	
79	51.775066	-9.299441	199.8		0.3	
80	51.774779	-9.300406	194.7		0.2	
81	51.774386	-9.301785	182.0		0.2	
82	51.773861	-9.303369	170.2		0.2	
83	51.773386	-9.304274	163.5		0.1	
84	51.772958	-9.305413	162.8		0.2	
85	51.772112	-9.307624	171.3		0.2	
86	51.771605	-9.308946	171.0		0.2	
87	51.771143	-9.310278	170.4		0.2	
88	51.770678	-9.311467	170.0		0.2	
89	51.770345	-9.312225	166.5		0.1	
90	51.769982	-9.313118	162.0		0.1	
91	51.769643	-9.313984	159.0		0.2	
92	51.769227	-9.315105	159.8		0.2	
93	51.768754	-9.316254	157.7		0.2	
94	51.768307	-9.317508	155.5		0.3	
95	51.767795	-9.318830	149.4		0.3	
96	51.767238	-9.320179	139.5		0.3	
97	51.766851	-9.321240	131.6		0.2	
98	51.766365	-9.322541	126.1		0.2	
99	51.765951	-9.323742	121.9		0.2	
100	51.765512	-9.325096	118.1		0.2	
101	51.765096	-9.326272	114.4		0.2	
102	51.764630	-9.327514	109.5		0.2	
103	51.764114	-9.328975	103.5		0.1	
104	51.763740	-9.330149	98.0		0.2	
105	51.763303	-9.331306	93.0		0.2	
106	51.762778	-9.332392	90.4		0.1	
107	51.762254	-9.333815	83.3		0.2	
108	51.761825	-9.335102	77.9		0.2	
109	51.761432	-9.336257	77.9		0.2	

Gortloughra Walkover. July 1st 2023.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
110	51.760982	-9.337785	78.2		0.1	
111	51.760749	-9.339019	74.6		0.2	
112	51.760713	-9.340330	70.5		0.2	
113	51.760469	-9.341732	66.2		0.2	
114	51.759142	-9.345815	65.4		0.2	
115	51.758638	-9.347093	66.9		0.1	
116	51.758107	-9.348386	65.5		0.2	
117	51.757649	-9.349378	64.2		0.3	
118	51.757110	-9.350432	64.9		0.1	
119	51.756522	-9.351337	66.2		0.2	
120	51.755898	-9.352602	67.0		0.2	
121	51.755478	-9.353753	64.7		0.2	
122	51.754977	-9.354964	58.3		0.2	
123	51.754383	-9.356084	55.9		0.1	
124	51.753875	-9.357252	57.2		0.2	
125	51.753535	-9.358626	59.9		0.2	
126	51.753109	-9.359948	62.2		0.2	
127	51.752602	-9.360907	61.4		0.2	

Gortloughra Walkover. January 27th 2024.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
1	51.75136	-9.09453	76.3		0.1	
2	51.75229	-9.09397	77.0		0.1	
3	51.75297	-9.09346	78.0		0.2	
4	51.75390	-9.09316	81.3		0.1	
5	51.75466	-9.09310	88.5		0.1	
6	51.75555	-9.09319	89.7		0.3	
7	51.75636	-9.09252	90.0		0.1	
8	51.75723	-9.09239	91.0		0.2	
9	51.75814	-9.09289	93.7		0.1	
10	51.75897	-9.09343	96.0		0.3	
11	51.76013	-9.09361	93.7		0.1	
12	51.76063	-9.09340	94.9		0.2	
13	51.76154	-9.09293	96.2		0.1	
14	51.76244	-9.09247	98.3		0.1	
15	51.76370	-9.09234	98.7		0.2	
16	51.76436	-9.09265	98.1		0.3	
17	51.76509	-9.09327	96.7		0.1	
18	51.76584	-9.09422	92.6		0.1	
19	51.76581	-9.09518	95.4		0.2	

Gortloughra Walkover. January 27th 2024.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
20	51.76579	-9.09648	92.1		0.1	
21	51.76591	-9.09791	88.6		0.1	
22	51.76615	-9.09931	87.8		0.2	
23	51.76628	-9.10069	88.3		0.1	
24	51.76611	-9.10218	93.0		0.1	
25	51.76637	-9.10330	96.4		0.2	
26	51.76630	-9.10477	99.7		0.2	
27	51.76584	-9.10622	105.5		0.1	
28	51.76572	-9.10735	107.9		0.1	
29	51.76520	-9.10855	111.0		0.3	
30	51.76427	-9.10871	112.2		0.3	
31	51.76365	-9.10924	112.1		0.1	
32	51.76329	-9.11055	110.6		0.1	
33	51.76266	-9.11158	114.1		0.1	
34	51.76205	-9.11258	120.2		0.1	
35	51.76165	-9.11400	122.9		0.2	
36	51.76167	-9.11535	119.3		0.1	
37	51.76129	-9.11689	109.7		0.2	
38	51.76075	-9.11753	99.4		0.1	
39	51.79628	-9.24461	242.4		0.1	
40	51.79727	-9.24354	241.0		0.3	
41	51.79808	-9.24312	248.9		0.1	
42	51.79865	-9.24265	253.0		0.1	
43	51.79975	-9.24141	251.8		0.3	
44	51.80016	-9.24092	253.2		0.1	
45	51.80065	-9.23983	243.2		0.2	
46	51.80070	-9.23968	243.7		0.1	
47	51.80101	-9.23844	248.0		0.1	
48	51.80149	-9.23680	244.5		0.2	
49	51.80154	-9.23576	251.8		0.2	
50	51.80182	-9.23433	246.7		0.2	
51	51.80235	-9.23310	245.0		0.1	
52	51.80281	-9.23215	246.4		0.1	
53	51.80340	-9.23097	247.3		0.3	
54	51.80405	-9.23000	245.6		0.1	
55	51.80476	-9.22901	245.1		0.1	
56	51.80538	-9.22816	243.7		0.3	
57	51.80548	-9.22803	243.4		0.1	
58	51.80556	-9.22792	243.3		0.1	
59	51.80578	-9.22760	242.6		0.1	
60	51.80651	-9.22626	239.3		0.1	
61	51.80722	-9.22502	234.9		0.2	
62	51.80772	-9.22396	227.5		0.1	

Gortloughra Walkover. January 27th 2024.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
63	51.80816	-9.22255	218.8		0.1	
64	51.80864	-9.22098	210.5		0.1	
65	51.80925	-9.21969	196.4		0.2	
66	51.80967	-9.21837	186.7		0.1	
67	51.80990	-9.21767	190.5		0.1	
68	51.81034	-9.21644	194.8		0.3	
69	51.81085	-9.21542	199.7		0.1	
70	51.81137	-9.21429	200.6		0.2	
71	51.81195	-9.21289	203.5		0.1	
72	51.81233	-9.21191	206.0		0.2	
73	51.81284	-9.21066	209.1		0.1	
74	51.81325	-9.20922	219.0		0.4	
75	51.81362	-9.20810	225.1		0.1	
76	51.81390	-9.20673	233.2		0.1	
77	51.81439	-9.20520	231.6		0.3	
78	51.81474	-9.20415	227.2		0.1	
79	51.81491	-9.20276	219.8		0.1	
80	51.81529	-9.20152	208.2		0.2	
81	51.81583	-9.20016	195.7		0.2	
82	51.81629	-9.19900	187.1		0.3	
83	51.81655	-9.19783	180.9		0.3	
84	51.81731	-9.19700	159.2		0.1	
85	51.81787	-9.19619	161.2		0.2	
86	51.81824	-9.19494	166.9		0.1	
87	51.81858	-9.19382	165.7		0.1	
88	51.81910	-9.19212	161.0		0.2	
89	51.81936	-9.19110	159.6		0.1	
90	51.81939	-9.19095	160.1		0.1	
91	51.81948	-9.18963	164.5		0.1	
92	51.81957	-9.18811	165.3		0.1	
93	51.81980	-9.18692	169.0		0.1	
94	51.82016	-9.18558	174.5		0.3	
95	51.82018	-9.18544	175.2		0.1	
96	51.81977	-9.18482	174.8		0.1	
97	51.81858	-9.18437	179.7		0.1	
98	51.81823	-9.18346	183.2		0.2	
99	51.81797	-9.18224	187.2		0.2	
100	51.81780	-9.18091	184.9		0.2	
101	51.81755	-9.17980	177.9		0.1	
102	51.81642	-9.17990	169.3		0.1	
103	51.81582	-9.17905	168.2		0.1	
104	51.81517	-9.17860	176.6		0.2	
105	51.81433	-9.17953	183.1		0.1	

Gortloughra Walkover. January 27th 2024.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
106	51.81361	-9.18011	185.6		0.1	
107	51.81278	-9.17976	198.4		0.1	
108	51.81232	-9.18076	206.5		0.1	
109	51.81146	-9.18087	213.6		0.1	
110	51.81083	-9.18024	226.3		0.2	
111	51.81002	-9.18037	241.4		0.1	
112	51.80907	-9.18054	247.1		0.2	
113	51.80838	-9.18110	246.4		0.1	
114	51.80731	-9.18133	235.6		0.1	
115	51.80707	-9.18138	223.3		0.1	
116	51.80690	-9.18350	204.7		0.2	
117	51.80632	-9.18500	201.8		0.1	
118	51.80581	-9.18454	186.9		0.1	
119	51.80509	-9.18391	174.9		0.1	
120	51.80443	-9.18451	165.5		0.1	
121	51.80372	-9.18391	150.1		0.2	
122	51.80314	-9.18306	141.9		0.2	
123	51.80268	-9.18201	141.9		0.1	
124	51.80208	-9.18103	121.7		0.1	
125	51.80147	-9.17987	117.1		0.1	
126	51.80091	-9.17874	120.3		0.1	
127	51.80035	-9.17762	127.7		0.2	
128	51.79978	-9.17677	128.3		0.1	
129	51.79885	-9.17634	120.0		0.1	
130	51.79806	-9.17638	105.2		0.1	
131	51.79756	-9.17511	117.5		0.1	
132	51.79712	-9.17428	115.8		0.1	
133	51.79624	-9.17323	118.0		0.4	
134	51.79525	-9.17364	129.8		0.2	
135	51.79483	-9.17301	128.2		0.1	
136	51.79424	-9.17256	128.2		0.1	
137	51.79323	-9.17192	126.9		0.1	
138	51.79257	-9.17197	127.0		0.2	
139	51.79198	-9.17310	123.8		0.1	
140	51.79122	-9.17313	122.4		0.1	
141	51.79049	-9.17361	123.8		0.1	
142	51.78967	-9.17435	122.9		0.1	
143	51.78923	-9.17554	120.0		0.1	
144	51.78341	-9.17444	124.4		0.4	
145	51.78390	-9.17525	123.7	1	0.8	30
146	51.78421	-9.17584	125.7	1	1.6	25
147	51.78568	-9.17629	126.5	1	1.2	26
148	51.78643	-9.17653	126.8	1	0.7	27

Gortloughra Walkover. January 27th 2024.						
Point ID	latitude	longitude	elevation	Slope °	Probe Depth	Shear Strength (kPa)
149	51.79543	-9.24516	237.6		0.4	
150	51.79505	-9.24676	244.7		0.3	
151	51.79469	-9.24784	252.2		0.2	
152	51.79422	-9.24908	261.0		0.1	
153	51.79366	-9.25027	269.0		0.1	
154	51.79320	-9.25148	269.1		0.1	
155	51.79255	-9.25269	271.8		0.2	
156	51.79206	-9.25353	269.3		0.1	
157	51.79147	-9.25480	259.9		0.1	
158	51.79099	-9.25513	251.0		0.1	

Gortloughra Walkover 19 th April 2024				
Point ID	Latitude	Longitude	Elevation	Probe Depth
1	51.80035	-9.12009	168.0	0.1
2	51.79965	-9.11862	167.0	0.1
3	51.79925	-9.11745	163.4	0.1
4	51.79891	-9.11619	161.3	0.2
5	51.79851	-9.11418	158.6	0.1
6	51.79847	-9.11334	156.7	0.2
7	51.79909	-9.11256	164.0	0.1
8	51.79988	-9.11141	166.7	0.1
9	51.80028	-9.10846	169.3	0.3
10	51.79999	-9.10749	172.4	0.1
11	51.79967	-9.10567	172.0	0.2
12	51.79981	-9.10481	170.9	0.1
13	51.79981	-9.10325	174.2	0.1
14	51.79968	-9.10200	173.7	0.2
15	51.79959	-9.10060	175.4	0.1
16	51.79963	-9.09924	180.2	0.1
17	51.80050	-9.09868	177.8	0.2
18	51.80136	-9.09862	175.7	0.1
19	51.80227	-9.09898	176.5	0.1
20	51.80309	-9.09919	173.0	0.2
21	51.80394	-9.09925	168.7	0.2
22	51.80497	-9.09883	163.6	0.1
23	51.80588	-9.09854	163.8	0.1
24	51.80703	-9.09815	159.3	0.1
25	51.80737	-9.09952	161.9	0.3
26	51.80852	-9.10002	163.7	0.2
27	51.80943	-9.10078	165.1	0.1
28	51.80958	-9.10231	178.8	0.1
29	51.80940	-9.10333	179.9	0.3
30	51.80934	-9.10469	183.4	0.2

Gortloughra Walkover 19 th April 2024				
Point ID	Latitude	Longitude	Elevation	Probe Depth
31	51.80977	-9.10670	193.9	0.2
32	51.80987	-9.10841	197.9	0.3
33	51.80932	-9.10951	202.9	0.1
34	51.80876	-9.11031	224.0	0.1
35	51.80881	-9.11175	218.4	0.2
36	51.80891	-9.11298	213.8	0.1
37	51.80903	-9.11419	207.6	0.1
38	51.80903	-9.11434	207.5	0.1
39	51.80926	-9.11530	205.2	0.1
40	51.81026	-9.11640	202.5	0.1
41	51.81038	-9.11642	202.5	0.2
42	51.81123	-9.11711	190.6	0.1
43	51.81126	-9.11814	194.5	0.2
44	51.81133	-9.11823	194.6	0.2
45	51.81222	-9.11944	182.9	0.1
46	51.81301	-9.12056	180.4	0.1
47	51.81367	-9.12136	170.9	0.2
48	51.81407	-9.12165	168.0	0.1
49	51.81413	-9.12209	167.1	0.1
50	51.81436	-9.12331	182.0	0.1
51	51.81474	-9.12431	195.1	0.2
52	51.81510	-9.12562	192.4	0.2
53	51.81530	-9.12677	196.6	0.3
54	51.81574	-9.12804	193.9	0.1
55	51.81594	-9.12909	190.3	0.1
56	51.81631	-9.13132	189.7	0.1
57	51.81702	-9.13396	185.0	0.1
58	51.81735	-9.13508	179.2	0.1
59	51.81732	-9.13588	180.0	0.1
60	51.81753	-9.13657	177.4	0.1
61	51.81761	-9.13830	184.5	0.1
62	51.81831	-9.13885	189.0	0.2
63	51.81970	-9.14048	192.4	0.1
64	51.81985	-9.14192	194.1	0.1
65	51.81987	-9.14339	183.2	0.2
66	51.82050	-9.14318	171.7	0.1
67	51.82170	-9.14190	161.2	0.1
68	51.82244	-9.14154	151.6	0.2
69	51.82302	-9.14100	146.6	0.2
70	51.82377	-9.14017	150.1	0.1
71	51.82447	-9.13946	148.8	0.1
72	51.82508	-9.13924	144.7	0.1
73	51.82574	-9.13918	142.0	0.1
74	51.82675	-9.13850	142.7	0.1
75	51.82830	-9.13787	136.0	0.2

Gortloughra Walkover 19 th April 2024				
Point ID	Latitude	Longitude	Elevation	Probe Depth
76	51.82867	-9.13741	133.7	0.2
77	51.83008	-9.13492	129.5	0.2
78	51.83073	-9.13429	131.8	0.1
79	51.83155	-9.13248	127.6	0.1
80	51.83208	-9.13170	116.7	0.1
81	51.83261	-9.12980	108.6	0.1
82	51.82883	-9.14002	119.3	0.1
83	51.82823	-9.13923	126.7	0.1
84	51.82860	-9.14202	117.5	0.1
85	51.82823	-9.14430	110.0	0.2
86	51.82815	-9.14531	120.2	0.2
87	51.82753	-9.14775	135.0	0.3
88	51.82677	-9.14932	144.3	0.1
89	51.82605	-9.14998	155.4	0.1
90	51.82582	-9.15019	156.3	0.1
91	51.82539	-9.15171	167.8	0.1
92	51.82476	-9.15285	171.5	0.1
93	51.82418	-9.15424	176.6	0.1
94	51.82392	-9.15512	179.1	0.1
95	51.82361	-9.15695	174.5	0.1
96	51.82346	-9.15880	165.3	0.1
97	51.82337	-9.16028	157.5	0.1
98	51.82385	-9.16337	147.7	0.1
99	51.82427	-9.16518	144.3	0.1
100	51.82444	-9.16618	140.1	0.1
101	51.82454	-9.16895	126.7	0.3
102	51.82408	-9.17045	125.8	0.4
103	51.82341	-9.17118	138.2	0.3
104	51.82277	-9.17215	142.7	0.1
105	51.82240	-9.17344	138.6	0.1
106	51.82171	-9.17453	132.5	0.1
107	51.82078	-9.17662	153.2	0.1
108	51.82025	-9.17777	161.8	0.1
109	51.82014	-9.17906	158.6	0.1
110	51.82006	-9.18307	170.7	0.1
111	51.82009	-9.18451	175.8	0.1

Appendix 2: Site Photographs

Turbine T01

Maximum Probe Depth: 0.2m (shallow bedrock)

Vegetation: Heather and grass

Drainage: Good

Typical Slope: 10°

Photos:



Turbine T02

Maximum Peat Depth: 0.4m (shallow bedrock)

Typical Slope: 15°

Vegetation: Heather and grass

Drainage: Good to moderate

Photos:



Turbine T03

Maximum Peat Depth: 2.9m

Shear Strength: 18kPa

Typical Slope: 5°

Peat Description: Soft dark brown pseudo-fibrous Peat.

Von Post Classification: H6

Vegetation: Grass

Drainage: Moderate to poor

Photos:



Turbine T04

Maximum Peat Depth: 1.7m

Shear Strength: 20kPa

Typical Slope: 3°

Peat Description: Soft dark brown pseudo-fibrous Peat.

Von Post Classification: H6

Vegetation: Cotton grass, sedge grass

Drainage: Moderate

Photos:



Turbine T06

Maximum Peat Depth: 3.8m

Shear Strength: 16kPa

Typical Slope: 3°

Peat Description: Firm dark brown pseudo-fibrous Peat.

Von Post Classification: H5

Vegetation:

Drainage:

Photos:



Turbine T07

Maximum Peat Depth: 0.3m

Typical Slope: 10°

Vegetation: Grass

Drainage: Good

Photo:



Turbine T08

Maximum Peat Depth: 0.7m

Shear Strength: 20kPa

Typical Slope: 3°

Peat Description: Soft dark brown pseudo-fibrous Peat.

Von Post Classification: H7

Vegetation: Sedge grass

Drainage: Moderate

Photos:



Turbine T09

Maximum Peat Depth: 0.7m

Shear Strength: 30kPa

Typical Slope: 5°

Peat Description: Soft dark brown pseudo-fibrous Peat.

Von Post Classification: H7

Vegetation: Grass and spoil

Drainage: Moderate to Good

Photos:



Substation

Maximum Peat Depth: 1.1m

Shear Strength: 25kPa

Typical Slope: 5°

Peat Description: Soft dark brown pseudo-fibrous Peat.

Von Post Classification: H5

Vegetation: Grass

Drainage: Good

Photos:



Compound

Maximum Peat Depth: 0.2m

Typical Slope: 10°

Vegetation: Grass

Drainage: Moderate to Good

Photos:



Appendix 3: Laboratory Test Results