

Hirfynydd Renewable Energy Park - Anemometer Mast

Design and Access and Planning Statement

Final report



EDF

Hirfynydd Renewable Energy Park - Anemometer Mast

Design and Access and Planning Statement

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Chapter 1

Introduction

1.1 This Design and Access and Planning Statement accompanies an application for temporary planning permission for an anemometer mast of up to 121.5m high (including instruments) with associated security fencing, for 5 years. The site of the proposed anemometer mast is at grid reference 281695 205899.

1.2 The mast will be a galvanised steel triangular lattice mast with three aisles of anchors, supported by guy wires, designed to be unobtrusive by virtue of its slender form, materials and colour. It will be fitted with monitoring equipment to record wind direction and speed. **Figure 1** shows a typical anemometer mast.

1.3 Anemometer masts are simple to deliver and construct. The mast will be delivered to the site on a flatbed lorry and transported to the installation site via a tractor and trailer or tracked dumper. The mast will be transported to site via existing access tracks off the A4109, to the south of the site (see **Figure 4**). Construction of the mast will take approximately 15 days in total.

1.4 The Applicant and its project team have been in contact with officers at Neath Port Talbot Council, in relation to the wider Hirfynydd Renewable Energy Park proposal and are seeking to arrange a meeting to discuss the proposal further.

1.5 The following figures have been submitted with the application:

- **Figure 1** – Anemometer mast
- **Figure 2** – Site Location Plan
- **Figure 3** – Site Context Plan
- **Figure 4** – Site Access Plan
- **Figure 5** – Viewpoint location plan
- **Figure 6** – Viewpoint A
- **Figure 7** – Viewpoint B

Site and Surroundings

1.6 The site is located between the Vale of Neath and the Dulais Valley, approximately 2.2km north-east of the town of Crynant in South Wales. The wider Renewable Energy Park site is currently used for sheep grazing. A site location plan, site context plan and site access plan are included with the application.

1.7 The site area is approximately 0.25ha.

1.8 The proposed anemometer mast will be located approximately 1.4km from the nearest residential property, Nant y Cafn Isaf, Neath.

Chapter 2

Need for the Scheme

2.1 The anemometer mast will be erected within the site of the proposed Hirfynydd Renewable Energy Park which will include wind turbines of up to 200m tip height. It is standard practice for a wind farm development to seek separate permission for an anemometer mast as part of the wind farm development process. The anemometer mast is required to monitor and record accurate wind data such as direction and speed over a period of time.

2.2 EDF Renewables (the 'Applicant') have chosen this location for the development of a wind farm for a number of reasons including a good wind resource across the site.

2.3 Although part of the Renewable Energy Park development process, this is a standalone planning application. The decision on this application will in no way prejudice the outcome of the separate Hirfynydd Renewable Energy Park application that will be submitted in 2023.

Chapter 3

Design Principles

Location

3.1 The anemometer mast will be situated at 281695, 205899 (+/- 5m), which has been selected to ensure that accurate and representative measurements can be taken. See **Figures 2, 3 and 4** for more information on the location of the proposed development site. This location avoids key site constraints such as watercourses and Public Rights of Way (see **Chapter 4**).

Amount

3.2 The proposed development consists of the installation of a temporary anemometer mast, on land north-east of Crynant. The mast will remain in situ for a temporary period of 5 years. The wind data will be collected through a meteorological monitoring system, which will be mounted on the mast by fixing it to small horizontal booms (steel supports on which the equipment will sit). The whole mast is a single structure supported by guy wires, as illustrated in **Figure 1**. The outer guy wires will be fitted with bird diverters to avoid any impacts on birds. The bird diverters will be spaced every 5m on the outer guy wires.

3.3 The mast structure itself will be installed at ground level on a timber raft base and supported by 3 sets of 6 guy wires (18 anchor points), without the need for permanent foundations. Anchors will be dug to a depth of approximately 1500mm.

3.4 A power supply to the mast will be required for heating of the instrumentation and use of a low intensity aviation light. A solar PV array will be sited on the southern side of the mast.

3.5 A 1.2m post and wire fence is proposed to prevent livestock accessing the site of the mast.

Layout

3.6 The red line follows the position of the guy wires and the extended area allows for the exact location of the anemometer mast to be moved by 5m in any direction to account for currently unknown site conditions. This is standard practice and allows some flexibility as to the exact location of the mast during construction. The total area of the development is 0.25ha.

Scale

3.7 The mast will be 120m in height and approximately 750mm wide, with rigging to 80m to allow for the position of the 3 guy sets (stabilising ropes), connecting to 18 anchor points on the ground to secure the mast.

3.8 The mast will support anemometers to measure wind speed. With these instruments, and a lightning finial on top, the total height will be no greater than 121.5m.

3.9 The security fencing will be a 1.2m post and wire fence.

Landscaping

3.10 No landscaping will be required as part of this permission. The land underneath the proposed mast will remain grassed as at present but will not be grazed. The land surrounding the site will not be altered from its current state.

Appearance

3.11 The mast column is of triangular lattice construction, made of galvanised steel. It is designed to be as unobtrusive as possible by virtue of its slender form, materials, and colour. It will be fitted with wind monitoring equipment on booms and a small box containing the recording equipment. This is a standalone development. Infra-red aviation lighting is proposed given the height of the mast.

3.12 A picture of a typical anemometer mast is included in **Figure 1**.

Safety and Security

3.13 The mast is rated to withstand wind speeds of approximately 100mph and, as such, will present no safety concerns.

3.14 No security issues are envisaged. Measures will be put in place to secure the mast site. Tamper proof shackles will be used on the anchors. These require a special tool to remove, and as such this prevents the mast being cut down via the anchors. Signage will also be displayed at the anchors.

3.15 Security spikes and anti-climb paint will be used to prevent anyone attempting to climb and tamper with the mast.

3.16 During installation and removal, all contractors will follow appropriate health and safety procedures. Minimal maintenance will be required during the temporary period that the mast will be on the site during operation.

3.17 The mast will be visited every 3-6 months by a site engineer, in a 4x4 vehicle. The visit will include instrument checks, a visual check of the mast, guyed wires and anchors, and also ensuring that site signage is still in place.

3.18 The instruments will also be monitored remotely, and should any instrumentation fail, additional site visits will be required.

3.19 The proposed fencing will ensure livestock cannot access the site of the mast.

Access

3.20 The site will be accessed via existing access tracks off the A4109 to the south of the site.

3.21 The mast will be transported in sections on a flatbed lorry and transported to the installation site by a tractor and trailer or a tracked dumper. A small team of trained individuals will erect the mast which will take approximately 15 days in total. On-going access will be limited to occasional visits for maintenance during operation and ultimately the decommissioning of the mast.

3.22 Public Rights of Way and access to the Open Access land will not be affected. At the end of the five years all equipment will be removed and the site will be reinstated to its former condition.

Drainage

3.23 From 7th January 2019, all new developments where the construction area is 100m² or more, require Sustainable Drainage Systems (SuDS) for surface water designed and built in accordance with the Welsh Ministers' Statutory SuDS Standards. The site area of the proposed development is approximately 0.25ha, however the actual infrastructure to be built (the mast and fencing) is very small. The triangular mast itself is approximately 750mm wide and each guy rope will be secured to an anchor of approximately 10cmx10cm. It will not have an effect on drainage across the site. As such it is not necessary to provide SuDS.

Chapter 4

Environmental Constraints

Environmental Context

4.1 The proposed development site is not located within any nationally designated landscapes. The site is located within the Dulais Valley Special Landscape Area as set out within the Neath Port Talbot Local Plan.

4.2 The site is not located within any statutory ecological designations. The closest designated site is the Nant-y-Rhos Site of Special Scientific Interest (SSSI), located approximately 3km to the north-west of the site.

4.3 The site is located within an area designated as a section 7 habitat (Purple Moors Grass and Rush Pastures / dry heath) and ground water dependent terrestrial ecosystems (GWDTEs) are located on the site. These designations cover large sections of the surrounding area.

4.4 The site is not located within any historical designations. A Scheduled Ancient Monument is located approximately 350m to the north of the site. The monument comprises a pre-historic cairn.

4.5 The site is designated as an area safeguarded for Category 1 Sand and Gravel Resource within the Neath Port Talbot Local Plan. This is an extensive designation covering large sections of the surrounding area.

The Surrounding Area

4.6 A suite of environmental surveys have been undertaken to inform the proposed Hirfynydd Renewable Energy Park development. Although these surveys cover an area much wider than the anemometer mast development site, the findings have been used to inform this planning application.

4.7 Given the scale and temporary nature of the proposed anemometer mast, the direct loss of habitat would be small and while Purple Moors Grass and Rush Pastures / dry heath is a Section 7 habitat of principal importance for biodiversity in Wales, the example within the site is not managed to a good condition and is not biodiverse (dominated by purple-moor grass). The impact of the mast is not considered to result in detrimental impact on these features and any loss is unlikely to result in significant harm. In relation to GWDTEs the met mast would result in small areas of ground compaction around the anchor points, however, the impacts upon groundwater flows are likely to be minimal. The foundations are small and

the impermeable footprint at the surface level also minimal, which will have little-no effect upon recharge rates.

4.8 Extended Phase 1 Habitat Surveys of the Renewable Energy Park site were undertaken in 2021. The surveys confirmed no evidence of badgers. Surveys are ongoing for bats, birds and otters. The main site is considered unsuitable for dormice although these may be present within heavily vegetated areas particularly along the access route. There are no records of great crested newts within 2km of the site and the site would be located over 500m from any nearby ponds. The presence of common lizard was confirmed during survey work.

4.9 The siting of the anemometer mast has taken all site constraints into account and has been located to avoid direct impacts on sensitive site features. The presence of these constraints in the vicinity of the site do not represent a significant constraint to this proposal.

Landscape and Visual

4.10 This section describes the landscape and visual issues relating to the site of the proposed anemometer mast.

Landscape Character

4.11 The proposed anemometer mast is located approximately 6.0 km south of the Brecon Beacons National Park boundary. The *'National Park's sweeping grandeur and outstanding natural beauty observed across a variety of harmoniously connected landscapes, ... and prominent hilltops with extensive views in all directions'* are considered to be among the special qualities of this landscape. At a distance of 6.0 km, it is not considered that the proposed anemometer mast will result in any notable effects on the special qualities of this nationally designated landscape.

4.12 The NPTCBC Local Development Plan (2011-2026) identifies six locally designated Special Landscape Areas (SLAs). The majority of the proposed Hirfynydd Energy Park site, including the location of the proposed anemometer mast, falls within the boundary of the Dulais Valley SLA. The SLA stretches from the outskirts of Aberdulais in the south to Seven Sisters in the north and covers the valley sides as well as the unforested uplands, acting as a backdrop to the valley. Tranquillity of the upper ridge, supported by a lack of development is described as a feature and characteristic of this landscape. However, only a small proportion of this locally designated landscape will be affected.

4.13 The proposed anemometer mast is located within Landscape Character Area (LCA) 21: Hirfynydd, as defined by Neath Port Talbot Landscape Assessment¹. Characterised by an extensive upland plateau overlain by coniferous plantation, the landscape of this LCA contrasts with wider areas of upland grazing and moorland that are more naturalistic in character. Other key characteristics of this LCA include a remote character enhanced by minimal access, lack of dwellings as well as the presence of the Sarn Helen Roman road. In this context, it is considered that the key characteristics of this LCA will be largely unaffected.

4.14 The site of the proposed anemometer mast falls within Dulais Valley Moorland Visual and Sensory Aspect Area (VSAA). LANDMAP² considers this area to have a moderate overall evaluation as the area *"provides simple scenic quality, with consistent character contrasting with the coarse texture of surrounding woodland"*. The LANDMAP description for this area also notes that this area is characterised by detractive views out to Ffynnon Oer windfarm. The slim profile anemometer mast will be seen in the context of other vertical structures and its presence in views for a temporary period would result in a limited effect on the visual and sensory character of the landscape. Aesthetic qualities such as the large scale and open nature of the landscape will be unaffected by the mast.

4.15 LANDMAP describes land lying 700m west of the proposed anemometer mast (and occupying the western extent of the proposed Hirfynydd Energy Park site) as Dulais Valley VSAA. This area is characterised by a 'high' overall evaluation score due to its high scenic qualities which provide attractive views at an intimate scale and also to the higher ground beyond. The LANDMAP summary description states that although minor detractors exist within this VSAA, these are not sufficient to significantly diminish the character. Indirect effects resulting from the proposed anemometer mast will not affect the character.

Visual amenity

4.16 Visual receptors in relation to the proposed anemometer mast include the local community, where the pattern of settlement is typically defined by linear towns and villages located on the valley floor of the Dulais Valley and the Vale of Neath. Settlements with potential visibility of the proposed anemometer mast include Nant-y-cafn, Seven Sisters, Glynneath, Resolven and Crynant. Sequential views may also be experienced by some road users travelling on some sections of routes such as the A4109, A465 and B4242 as well as recreational users of open access land and some parts of the

¹ Neath Port Talbot County Borough Council and Countryside Council for Wales (2004) *Neath Port Talbot LANDMAP Landscape Assessment*

² LANDMAP provides an all-Wales landscape resource where landscape characteristics, qualities and influences are recorded and evaluated.

Public Right of Way (PRoW) network. In addition, theoretical visibility would be afforded from the Brecon Beacons National Park. **Figure 5** illustrates the proposed location of Viewpoint A (view from the hill summit near Carreg Cadno) and Viewpoint B (A4109, Crynant) relative to the proposed anemometer mast.

4.17 Figure 6 illustrates how the proposed anemometer mast would appear in the panoramic view from the hill summit near Carreg Cadno (Viewpoint A), located within the boundary of the Brecon Beacons National Park. Although the wireline does not show how the proposed anemometer mast will be seen in the context of existing vertical features such as existing operational wind energy developments, the view demonstrates that the proposed anemometer mast is not likely to form a prominent element of views from the National Park.

4.18 Figure 7 provides an indication of how the proposed anemometer mast would appear in the view from residential properties in Crynant (Viewpoint B). Direct views are limited from this location due to the valley topography and effect of intervening landform in views to the east. The proposed anemometer mast would just be perceptible protruding above the skyline, albeit forming a very minor component of the wider panorama.

Summary

4.19 The large scale and forestry-influenced character of the landscape as well as the relatively limited change to sensitive visual receptors predicted above indicate that the proposed anemometer mast will be able to be accommodated within the landscape and views without unacceptable adverse impacts.

Chapter 5

Planning Policy

5.1 Section 38(6) of the Planning & Compulsory Purchase Act 2004 states that:

"If regard is to be had to the development plan for the purpose of any determination to be made under the Planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise."

5.2 The statutory development plan that covers the proposal site is the Neath Port Talbot County Borough Council Local Development Plan³, adopted in 2016.

5.3 The following policies are of relevance to the proposed development:

- EN2 - Special Landscape Area: development within designated Special Landscape Areas will only be permitted where it is demonstrated that there will be no adverse impacts on the features and characteristics for which the area has been designated.
- EN6 – Important Biodiversity and Geodiversity Sites: development proposals that would affect biodiversity and geodiversity sites including S42 habitats and species (now S7 habitats) will only be permitted where they conserve or where possible enhance the natural heritage importance of the site.
- EN7 – Important Natural Features: if development proposals would adversely affect ecologically or visually important natural features then full account must be taken of the relevant features in the design of the development with measures put in place to ensure they are retained and protected wherever possible. When removal is unavoidable, the biodiversity value and role of the relevant feature must be taken into account and mitigation agreed.
- M1 – Development in Mineral Safeguarding Areas: development proposals within mineral safeguarding areas will only be permitted in a number of limited

³ Neath Port Talbot County Borough Council Local Development Plan (2016). Available at:

https://www.npt.gov.uk/media/7321/ldp_written_statement_jan16.pdf?v=20170727124344

circumstances. This includes temporary development proposals where the development can be implemented, and the site restored within the timescale that the mineral is likely to be needed and where the scale and location of the development would have no significant impact on the possible working of the resource.

- BE1 – Design: all development proposals will be expected to demonstrate high quality design and must be appropriate in terms of siting, appearance, scale, height, massing and elevation treatment. Development must respect the site and surroundings and must not result in a significant adverse impact on neighbouring amenity.
- TR2 – Design and Access of New Development: development proposals must not compromise the safe, effective and efficient use of the highway network or create unacceptable levels of traffic generation. Proposals must make arrangements for the safe manoeuvring of any service vehicles associated with the development.

5.4 It is considered that the proposed development is compliant with the policies listed above.

5.5 Preparation has commenced on a replacement Neath Port Talbot Local Development Plan, although this is at a very early stage, with a pre-deposit consultation targeted for March – April 2023. The replacement Local Development Plan therefore currently carries no weight.

Compliance with Policy

5.6 In line with Section 38(6) of the Planning & Compulsory Purchase Act 2004, this development complies with the development plan for Neath Port Talbot.

5.7 The purpose of the proposed anemometer mast is to collect baseline data to support the turbine procurement process for the potential Hirfynydd Renewable Energy Park. The proposal for wind turbines on the site will be subject of a separate application for planning permission under the Developments of National Significance (DNS) regime, which will be determined on its own merits.

5.8 The mast is considered to comply with relevant policies in the Neath Port Talbot Local Development Plan, given:

- the temporary nature of the anemometer mast;
- the unobtrusive engineering works required to erect the mast;
- the location and positioning of the mast to ensure it is as far away from sensitive receptors as possible; and
- the slim and lightweight design of the anemometer mast.

5.9 In terms of residential amenity considerations, the equipment on the proposed mast will not give rise to noise emissions. The only relevant consideration is therefore landscape and visual impact. Given that the nearest residential dwelling is over 1.4km from the proposal site, it is considered that there will not be any significant impacts on any properties that will affect the visual amenity of local residents.

5.10 Potential visibility of the proposed mast from public viewpoints in the area will be limited as the mast will be a slim and lightweight structure, which will become increasingly less visible to the human eye with distance. The visibility of the mast will also vary with light and weather conditions. Due to the large scale and forestry-influenced character of the landscape it is considered that the mast would be able to be accommodated within the landscape without unacceptable adverse impacts. Furthermore, the presence of the mast within the landscape will be short lived due to its temporary nature and any potential impacts will be reversible, as noted above.

5.11 The mast will not have any effect on the nature conservation and biodiversity value of the site. The means of construction and decommissioning will be low impact and will have no ecological impacts. There will not be any activity at the mast site during operation other than for routine maintenance, and the mast is highly unlikely to disrupt any protected species around the site including birds, particularly as the outer guy wires will be fitted with bird diverters. In addition, the mast will be on site for a temporary period.

5.12 The mast will not be located within any historical designations, nor will it affect any watercourses.

5.13 Overall, the proposed development complies with all relevant planning policy.

Chapter 6

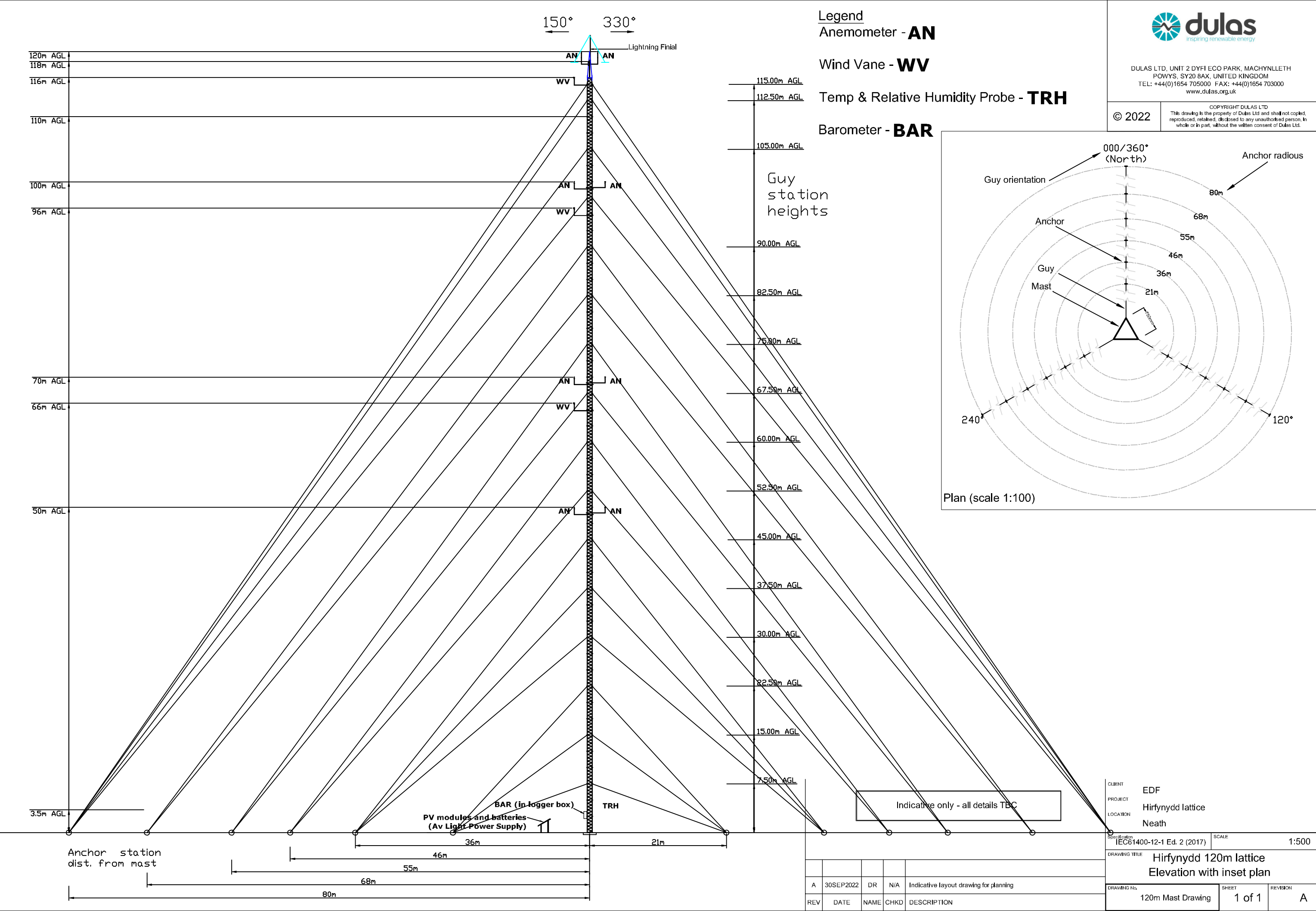
Conclusion

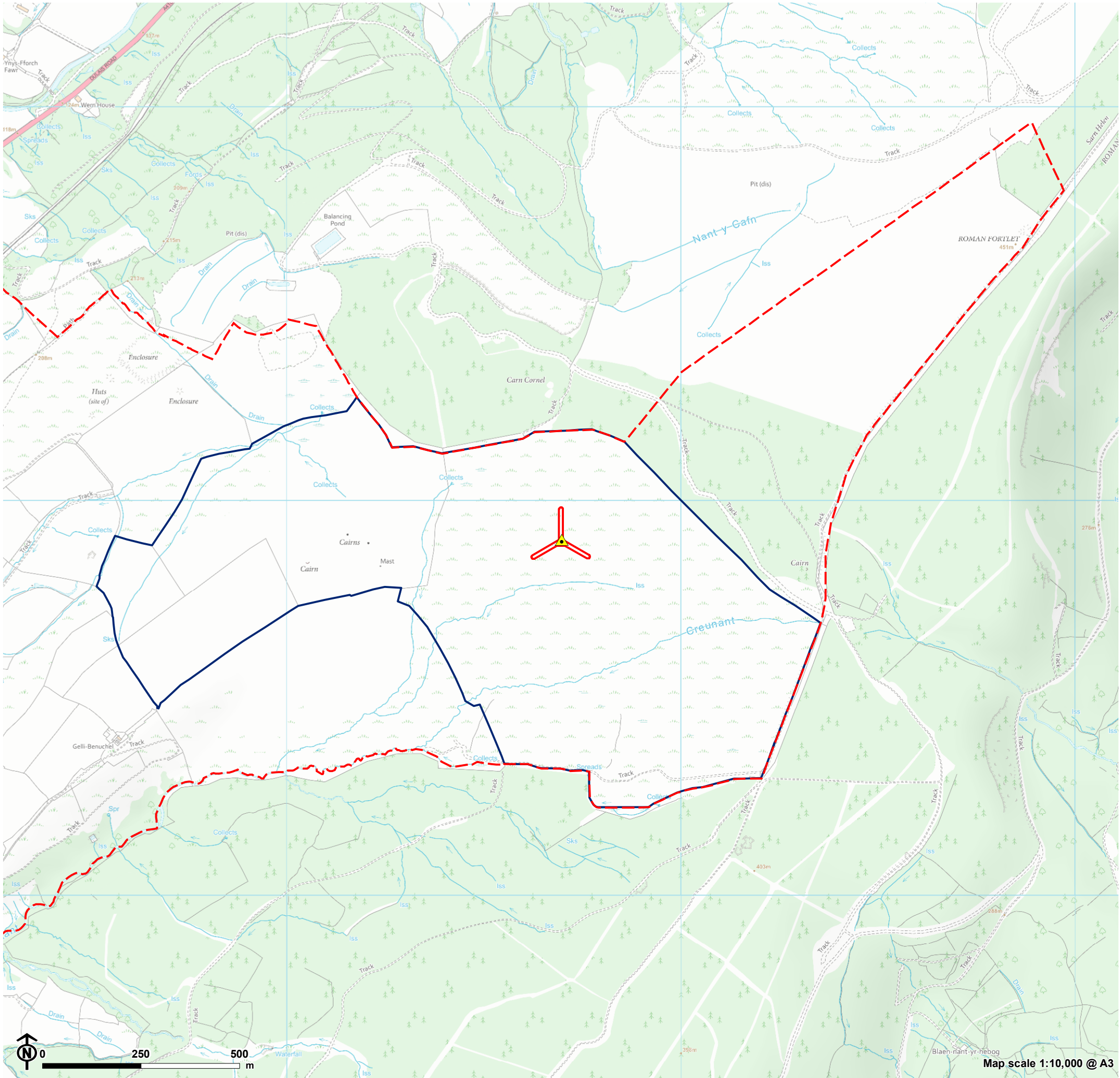
6.1 The proposed anemometer mast and equipment is required to gather a range of meteorological data to provide a detailed understanding of the area's wind characteristics. This will support the turbine procurement process and inform output figures and CO₂ savings of the wind turbines proposed for the Hirfynydd Renewable Energy Park.

6.2 The appropriateness of the location and design of the project has been considered, from all environmental, social, technical and safety aspects. Of particular importance, the chosen location of the proposed mast and its temporary nature would ensure there are no adverse impacts on local landscape and nature conservation designations, or on the amenity of the nearby residents.

6.3 This Statement demonstrates that the proposed development has been designed to respond appropriately to the site's context and constraints. The proposals also comply with the relevant policies in the adopted Neath Port Talbot Local Development Plan. Planning permission should therefore be granted.

Figure 1: Anemometer Mast



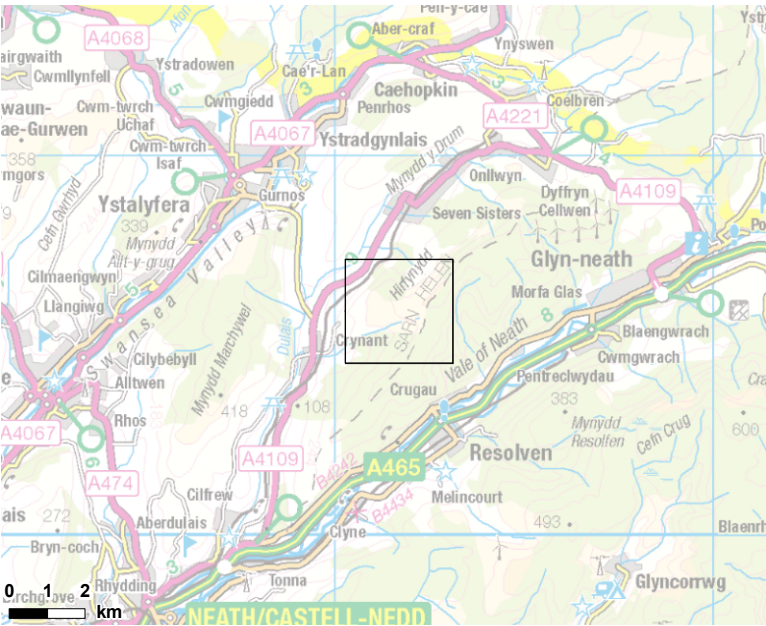


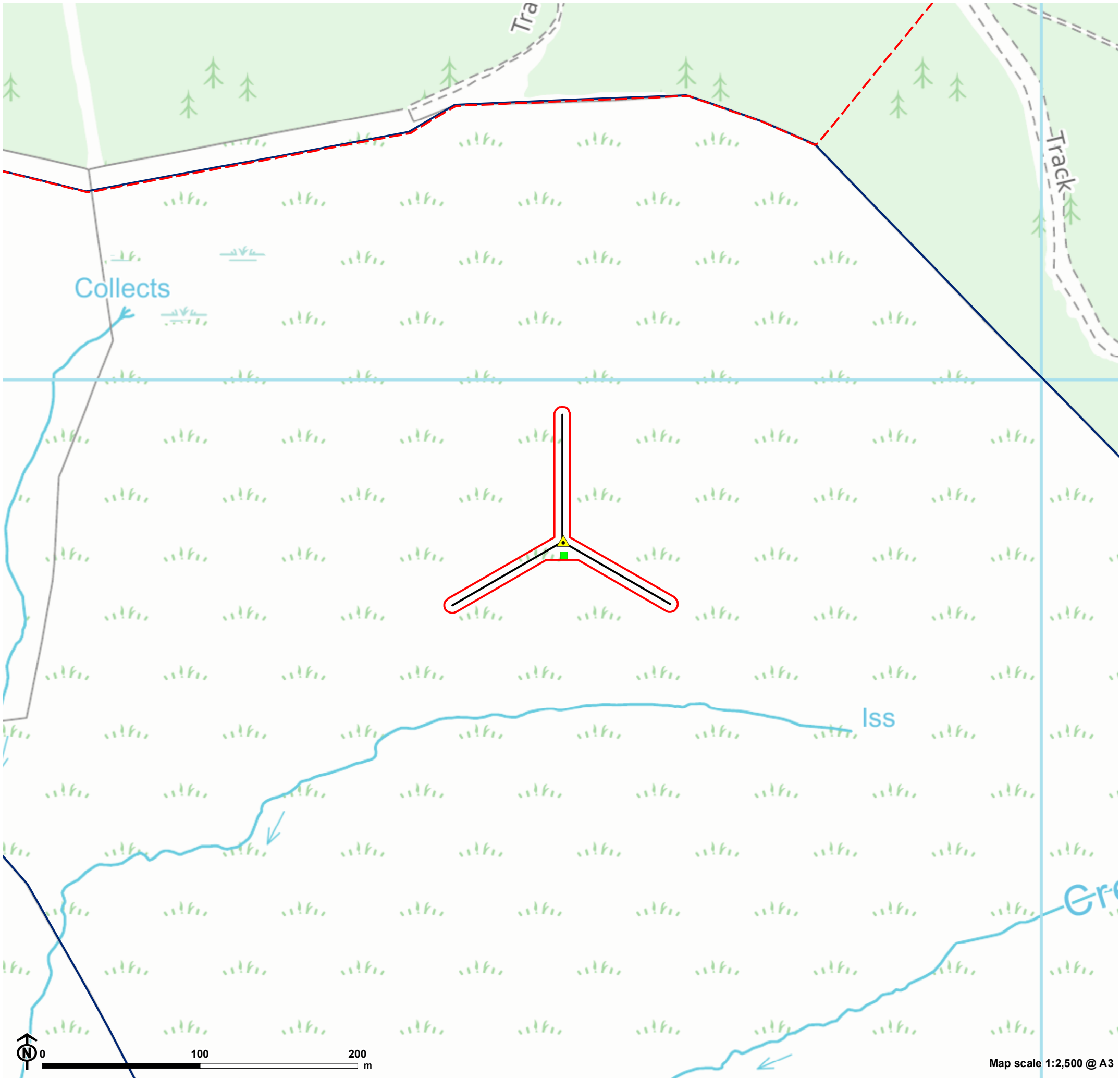
Hirfynydd Renewable Energy Park
for EDF Renewables



Figure 2: Site Location

- Met mast location (281695.99742, 205898.428357)
- Site boundary
- Wind farm site boundary
- Wider ownership boundary





Hirfynydd Renewable Energy Park
for EDF Renewables



Figure 3: Site Context

- Met mast location (281695.99742, 205898.428357)
- Site boundary
- Wind farm site boundary
- Wider ownership boundary
- Indicative solar photovoltaics location
- Guy wires

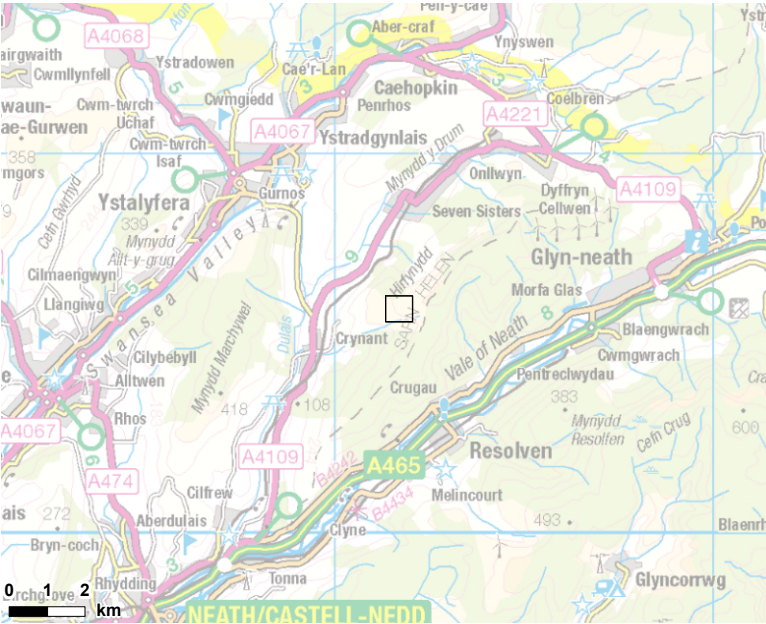
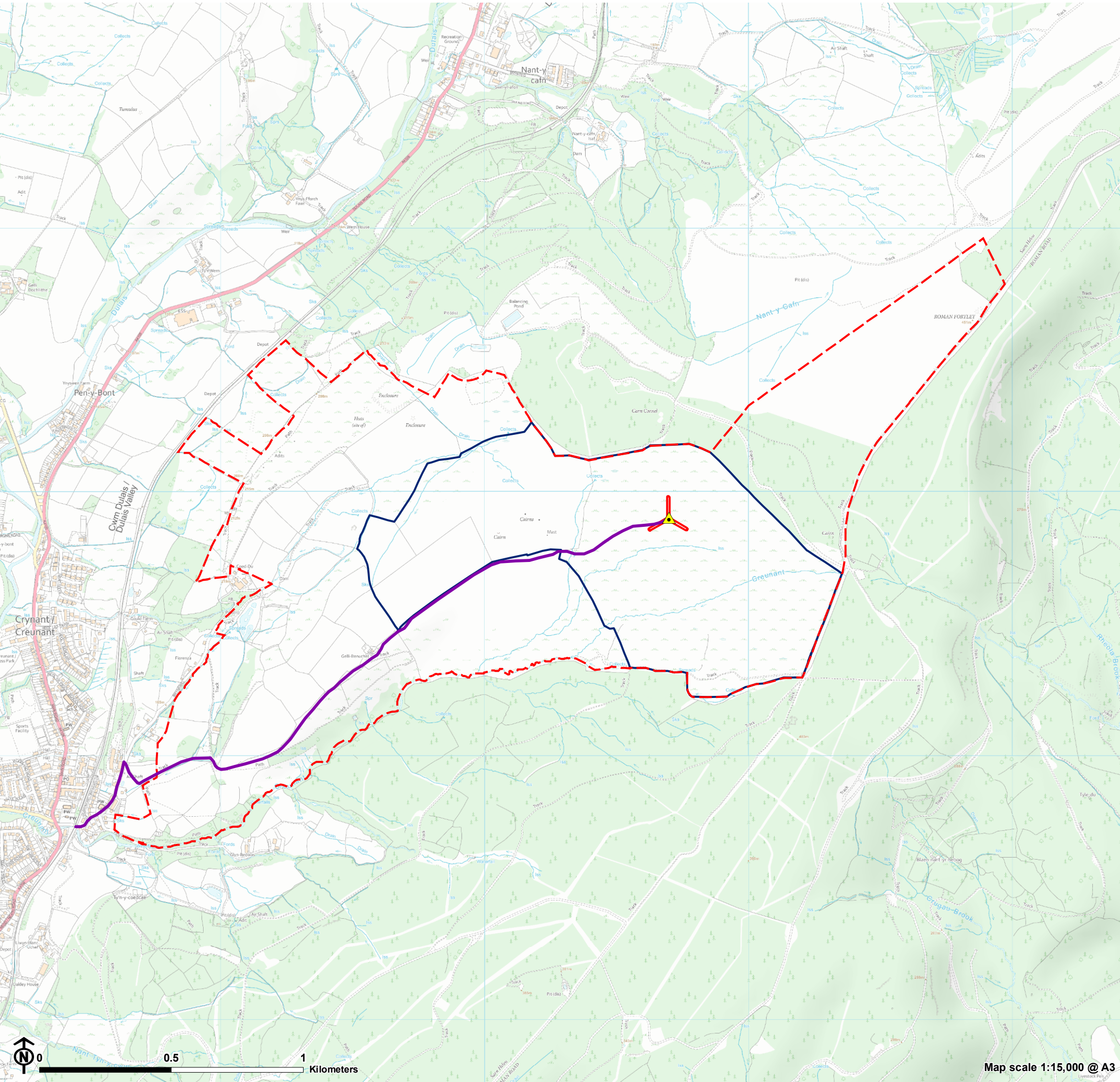
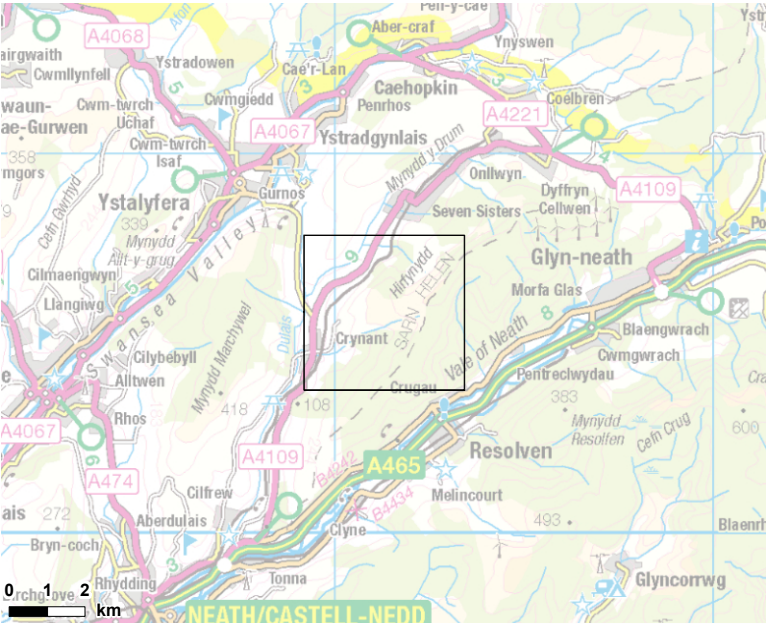


Figure 4: Site Access Plan



- Met mast location (281695.99742, 205898.428357)
- Site boundary
- Wind farm site boundary
- Wider ownership boundary
- Access route



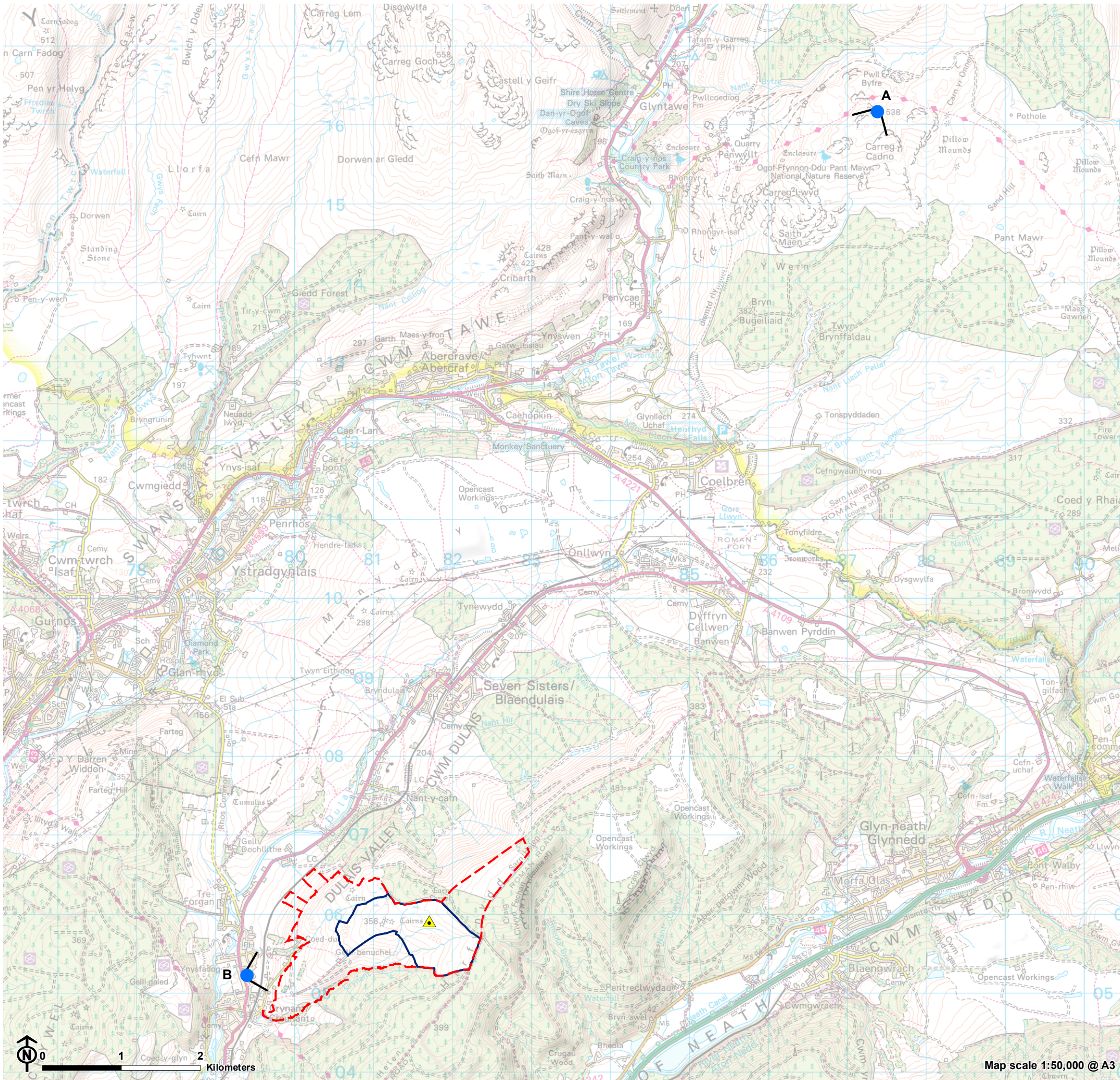
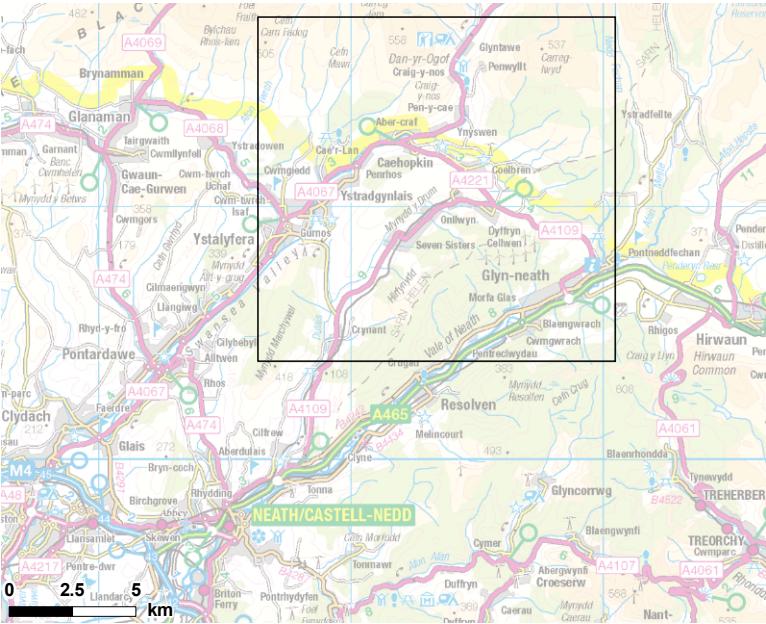
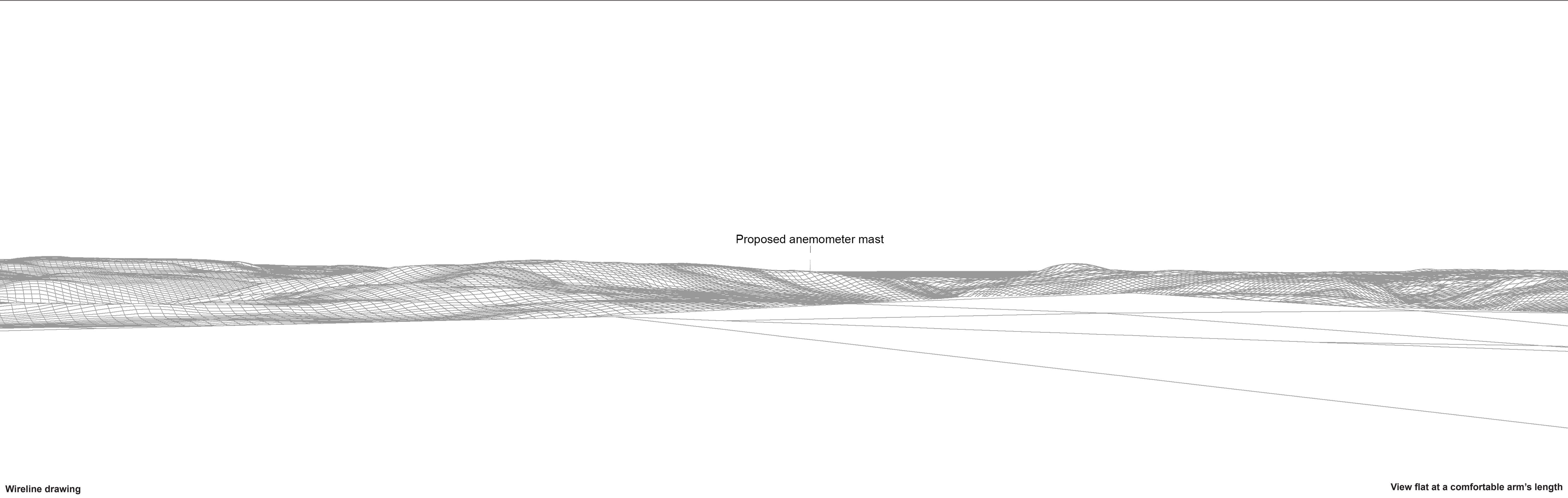


Figure 5: Viewpoint Location Plan

- Met mast location (281695.99742, 205898.428357)
 - Wind farm site boundary
 - Wider ownership boundary
 - Viewpoint
- A: Hill summit near Carreg Cadno
B: A4109, Crynant



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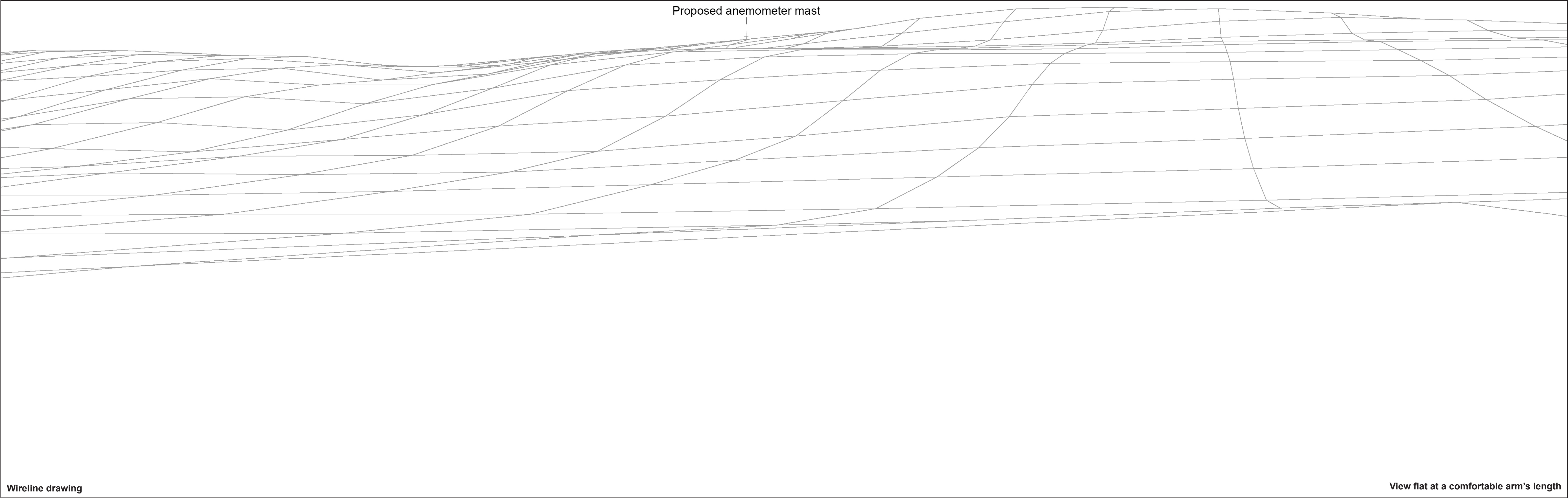
Wireline drawing

View flat at a comfortable arm's length



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AOD:	533 m	Principal distance:	812.5 mm
Direction of view:	75 °	Paper size:	841 x 297 mm (half A1)
Distance to development:	11.72 km	Correct printed image size:	820 x 260 mm

Hirfynydd Wind Farm
Figure: 6
Viewpoint A: Hill summit near Carreg



Wireline drawing

View flat at a comfortable arm's length



OS reference:	279346E 205208N	Horizontal field of view:	53.5° (planar projection)
AOD:	106 m	Principal distance:	812.5 mm
Direction of view:	75 °	Paper size:	841 x 297 mm (half A1)
Distance to development:	2.45 km	Correct printed image size:	820 x 260 mm

Hirfynydd Wind Farm
Figure: 7
Viewpoint B: A4109, Crynant