

# **Ffrwd Farm Wind Turbine, Llanwnnen, Lampeter Ceredigion.**

## **Archaeological Watching Brief**



*By*

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September 2018

HRSWales  
Report No: 195

# ARCHAEOLOGICAL WATCHING BRIEF

## Ffrwd Farm Wind Turbine, Llanwnen, Lampeter Ceredigion.

By  
Richard Scott Jones (*BA Hons, MA, MCIfA*)

*Prepared for:*

Seren Energy

*On behalf of:*

Granell Community Energy

*Date:* September 2019

HRSW Report No: 195

**H e r i t a g e**  
Recording Services Wales

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### ***Non Technical Summary***

*The following report presents the results of an archaeological watching brief undertaken during groundwork for a proposed single wind turbine, with associated hard-standing, access track and service trench on land at Ffrwd Farm, Llanwnnen, Lampeter, Ceredigion, centered on OS grid reference SN 5335 4941.*

*The archaeological watching brief during groundwork for the creation of the access track, crane pad and turbine foundation for the Ffrwd Farm Wind Turbine revealed no archaeological features, deposits or dateable material throughout the course of the ground work, which would seem to aptly confirm the place name description of Banc y Moelfre, or, 'Bare Hill'.*

## 1 Introduction

- 1.1 The following report presents the results of an archaeological watching brief undertaken during groundwork for a proposed single wind turbine, with associated hard-standing, access track and service trench on land at Ffrwd Farm, Llanwnnen, Lampeter, Ceredigion, centered on OS grid references SN 5335 4941.
- 1.2 The specific objectives of this work were to:
- Undertake a watching brief during all groundwork for the proposed development. This work included groundwork undertaken for the turbine foundation, crane pad and access track.
- 1.3 The Technical Appendices for this Chapter contains the following information:
- *Appendix I:* Figures;
  - *Appendix II:* Photographs
  - *Appendix III:* Archive Cover Sheet

### Site Location & Description

- 1.4 The proposed wind turbine was to be positioned in an open field of improved pasture at a height of approximately 259m AOD on the hill known as Banc y Moelfre. The turbine location is at OS grid reference SN 5335 4941, approximately 4km northwest of the village of Lampeter and approximately 2km southeast of the village of Cribyn and approximately 2km north of the village of Llanwnnen in the county of Ceredigion.
- 1.5 The proposed access track serving the turbine will follow an existing forestry track immediately northeast of Ffrwd Farm for approximately 500m. This existing track is to be improved. Then a new track is to be constructed approximately 900m southwest through upland grazing land and on to the proposed turbine position. An existing quarry within the woodland will be used to provide construction materials for the new and improved tracks. All field boundaries will be crossed at existing gateways.

### Development Proposals

- 1.6 The candidate wind turbine proposed is to be an Enercon E48, with a maximum tip height of 74m and hub height of 50m.
- 1.7 The concrete turbine foundation trench will measure approximately 13m x 13m x 2m in depth and will be installed within a 2/3 day period using a tracked excavator. Following excavation, reinforced steel lattice work will be installed, which will be followed by the pouring of concrete into the foundation area. A concrete up-stand would be cast on top of the slab, to which the turbine tower would later be bolted.
- 1.8 As well as the turbine foundation base, there will also be a temporary crane pad, 20m x 30m and underground cabling. Regarding the proposed access track to the turbine from Ffrwd Farm, the initial existing track through the forestry is to be improved with the laying of new material. The installation of

the new track through the upland grazing area will involve turf and top soil stripping and geo-textile material laid down and covered in new aggregate material sourced from a quarry in the forestry area. The new and improved track will measure approximately 3.5m in width.

### **Planning Background**

- 1.8 Following submission of a planning application (Ref: A140754) detailing the development proposals to Ceredigion County Council (henceforth CCC) on 18<sup>th</sup> September 2014, full planning permission was refused by CCC on 3<sup>rd</sup> June 2015. Following an appeal made to CCC full planning permission was granted on 26th April 2016, with condition 16 stipulating that:

“No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the Local Planning Authority.”

- 1.9 HRS Wales were commissioned by Granell Community Energy to undertake the archaeological works. A Written Scheme of Investigation (WSI) was submitted and approved by the authority in November 2017, with the watching brief commencing in August 2019.

### **Historical & Archaeological Background**

- 1.10 In September 2014 AH Heritage Planning undertook a heritage assessment report (*AH Ref: AH186/2*) for the proposed turbine on land at Ffrwd Farm, Llanwnnen Ceredigion
- 1.11 This assessment has identified no recorded archaeological activity at the Site, although there are some significant archaeological remains within the 2km study area, in general relating to Iron Age defended sites and enclosures, medieval activity and later land division, settlement and agriculture.
- 1.12 Given the evidence, it was assessed that the Site had a low potential to contain significant archaeological remains, due in large part to its rural location within an area of land which appears to have been subject to agricultural usage since the 18<sup>th</sup>-19<sup>th</sup> centuries, prior to which it is likely to have represented unimproved upland heath or pasture. The lack of any widespread arable farming suggests that any upstanding archaeological features, such as prehistoric barrows or ditch and bank enclosures would have survived well if present. No such remains were observed during the Site visit.
- 1.13 The report concluded that It was likely that any archaeological remains within the Site would comprise features relating to agriculture, most probably drainage features. The potential for buried archaeological features from earlier periods was recognised, and, if present, these were likely to be relatively well-preserved.
- 1.14 Assessed direct impacts as a result of the proposed construction works were predicted to be relatively small scale, limited to the turbine base, the temporary crane pad, access road and underground cabling works. It is likely that the construction works will result in disturbance to, and removal of, underlying

deposits, if/where present across the site. The proposed construction, therefore, had the potential to result in damage to buried archaeological features which may be present within the site.

## **Geology**

- 1.12 The geology of the application area is generally of undifferentiated Llandovery Rocks, consisting of mudstones, siltstones and sandstones.

## **2 Aims & Objectives**

- 2.1 The aims of the watching brief, as defined by the ClfA (2014) were to:
- Allow a rapid investigation and recording of any archaeological features that are uncovered during the proposed groundwork.
  - Provide the opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief are not sufficient to support the treatment to a satisfactory or proper standard.

## **3 Methodology**

### *Watching Brief*

- 3.1 The archaeological watching brief was undertaken by HRS Wales staff using current best practice between 26th June to 16th July 2019.
- 3.2 All work was carried out by a suitably qualified archaeologist with relevant level membership of the Chartered Institute for Archaeologists (CIfA) and followed the CIfA Standard and Guidance for an archaeological watching brief (CIfA 2014).
- 3.3 All proposed groundwork was undertaken under close and constant archaeological supervision. All groundwork by the contractor was undertaken using a mechanical digger with a toothless grading bucket.
- 3.4 All archaeological deposits or features when encountered were to be cleaned, recorded and partially excavated. All finds recovered during the watching brief were to be bagged and a grid coordinate was taken using a handheld GPS device in order to locate the findspot with the OS national grid.
- 3.5 Recording was carried out using HRS Wales recording systems (pro-forma context sheets etc), using a continuous number sequence for all contexts.
- 3.6 Where considered necessary plans and sections were drawn to a scale of 1:50, 1:20 and 1:10 as required



and related to Ordnance Survey datum and published boundaries where appropriate.

- 3.7 All features identified were tied in to the both the OS National Grid and all local site and ground plans.
- 3.8 Photographs were appropriated in digital format, using a 18 mega-pixel DSLR camera, with photographs stored in both RAW and JPEG formats.

## **4 Results of Watching Brief**

- 4.1 All numbers marked in ( ) refer to archaeological contexts encountered during the ground work.
- 4.2 Groundwork for the proposed scheme was undertaken in the following chronological order:

### *Access track*

- 4.3 Ground work for the access track began on 26th June 2019 once the upgrading of the existing track from Ffrwd Farm had been completed. Groundwork for the access track involved the removal of the turf and top soil all the way to the area of the crane pad and turbine foundation, a distance of approximately 900 meters. This track was to run parallel with an existing field boundary and then continue to Banc y Moelfre to the southwest.
- 4.4 Across the entire length of the access track, with the turf removed (100), a mid brown/yellow sandy clay top soil (101) became exposed. This top soil averaged a depth of between 0.10m - 0.20m. Directly below this top soil was a natural orange and grey sandy clay (102). This natural sandy clay deposit continued at this depth all the way to the crane pad and turbine foundation. No archaeological features, deposits or dateable material was seen or recovered from any of the groundwork for the access track.

### *Crane Pad and Turbine Foundation*

- 4.5 Once the access track had been completed, groundwork then began on the crane pad and turbine foundation on 16th July 2019 in the area of Banc y Moelfre. As with the access track, groundwork involved the removal of the turf and top soil. With the turf removed (100), a mid brown/yellow sandy clay top soil (101) became exposed, identical to that already encountered during groundwork for the access track. Again, this top soil averaged a depth of between 0.10m - 0.20m. Directly below this top soil was a natural orange and grey sandy clay (102). This natural sandy clay deposit continued at this depth all the way to the crane pad and turbine foundation. No archaeological features, deposits or dateable material was seen or recovered from any of the groundwork for the crane pad and turbine foundation.

## **5. Conclusion**

- 5.1 The archaeological watching brief during groundwork for the creation of the access track, crane pad and turbine foundation for the Ffrwd Farm Wind Turbine revealed no archaeological features, deposits or dateable material throughout the course of the ground work, which would seem to aptly confirm the place name description of Banc y Moelfre, or, 'Bare Hill'.

## **6 Acknowledgements**

Many thanks to the landowner for allowing access to the site during the watching brief and also to the contractor for their patience.

## **7 Bibliography**

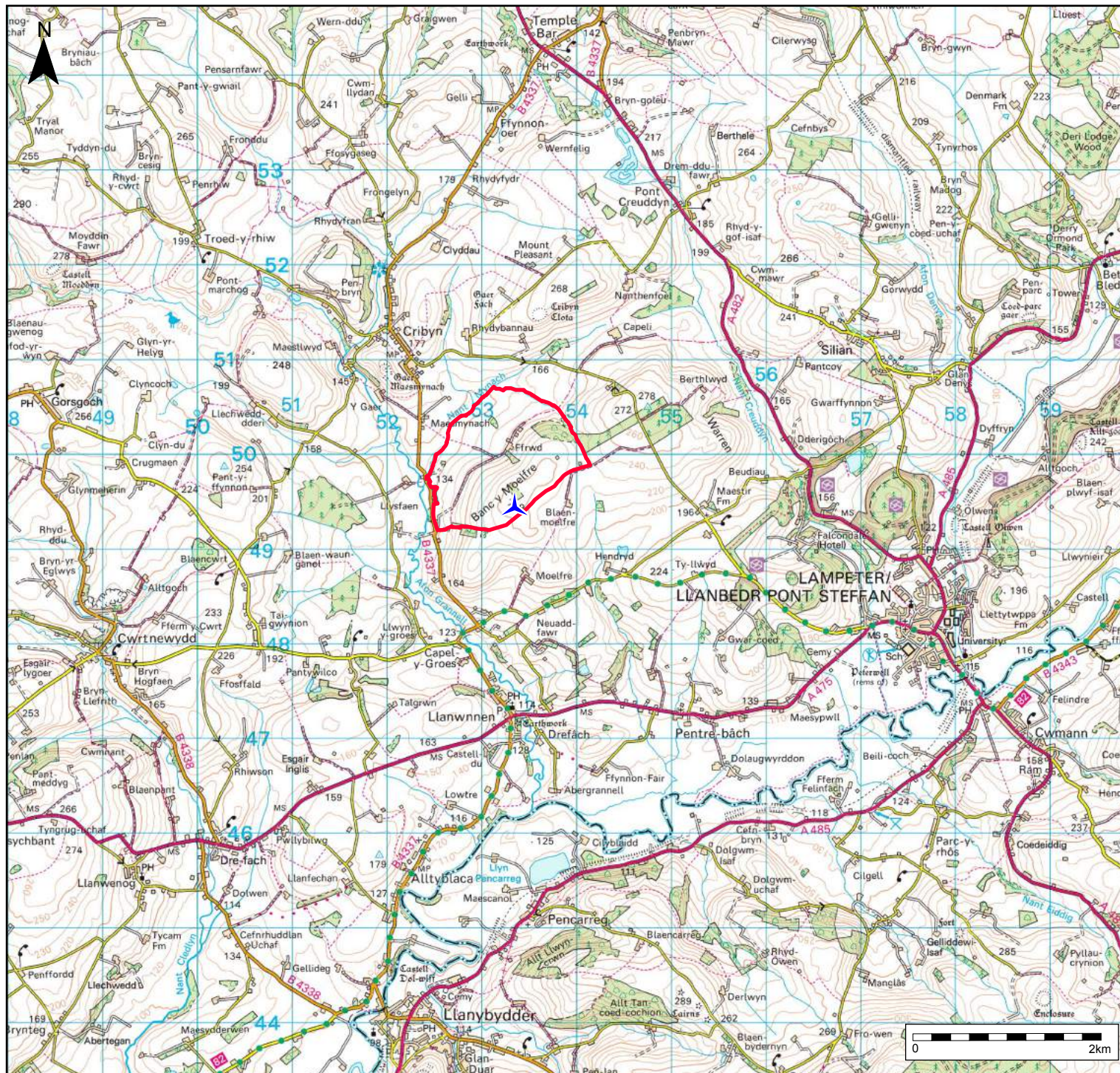
British Geological Survey 1979, Ten Mile Map 3rd edition (solid) 1:625000

Soils of England and Wales 1983. Sheet 2: Wales, 1:25000

# **APPENDIX I:**

## **Figures**





### Legend

- Site Boundary
- ▲ Turbine location

Approximate Scale (@ A4): 1:50,000

Date: September 2019

Prepared by:  

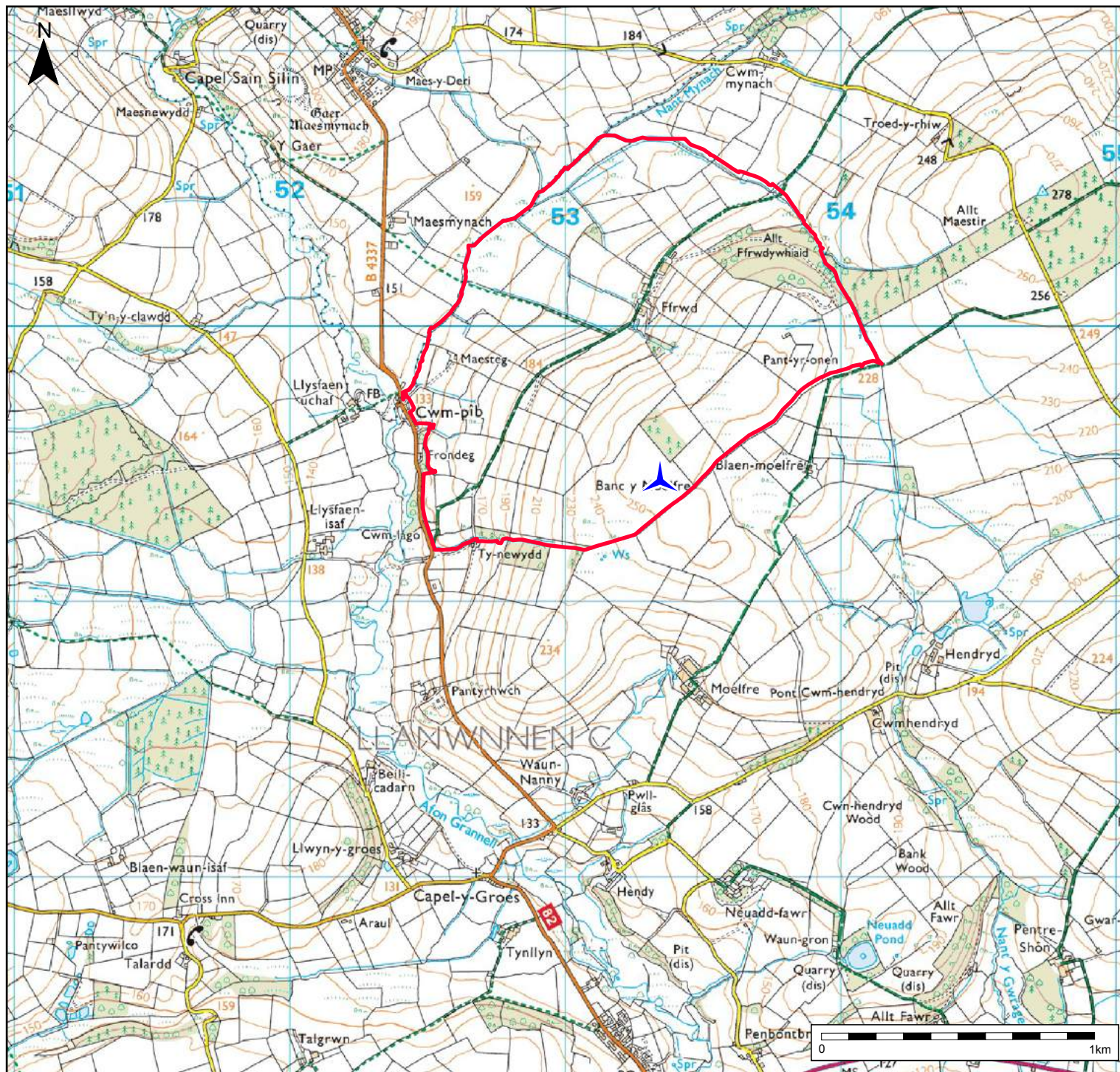

Client:  
 Seren Renewables

On behalf of:  
 Granell Community Energy

Project Title:  
 Ffrwd Farm Wind Turbine

Figure 1.  
 Site Location (OS Landranger 1:50,000)





#### Legend

- Site Boundary
- ★ Proposed turbine location

**Approximate Scale (@ A4):** 1:20,000

**Date:** September 2019

**Prepared by:**  

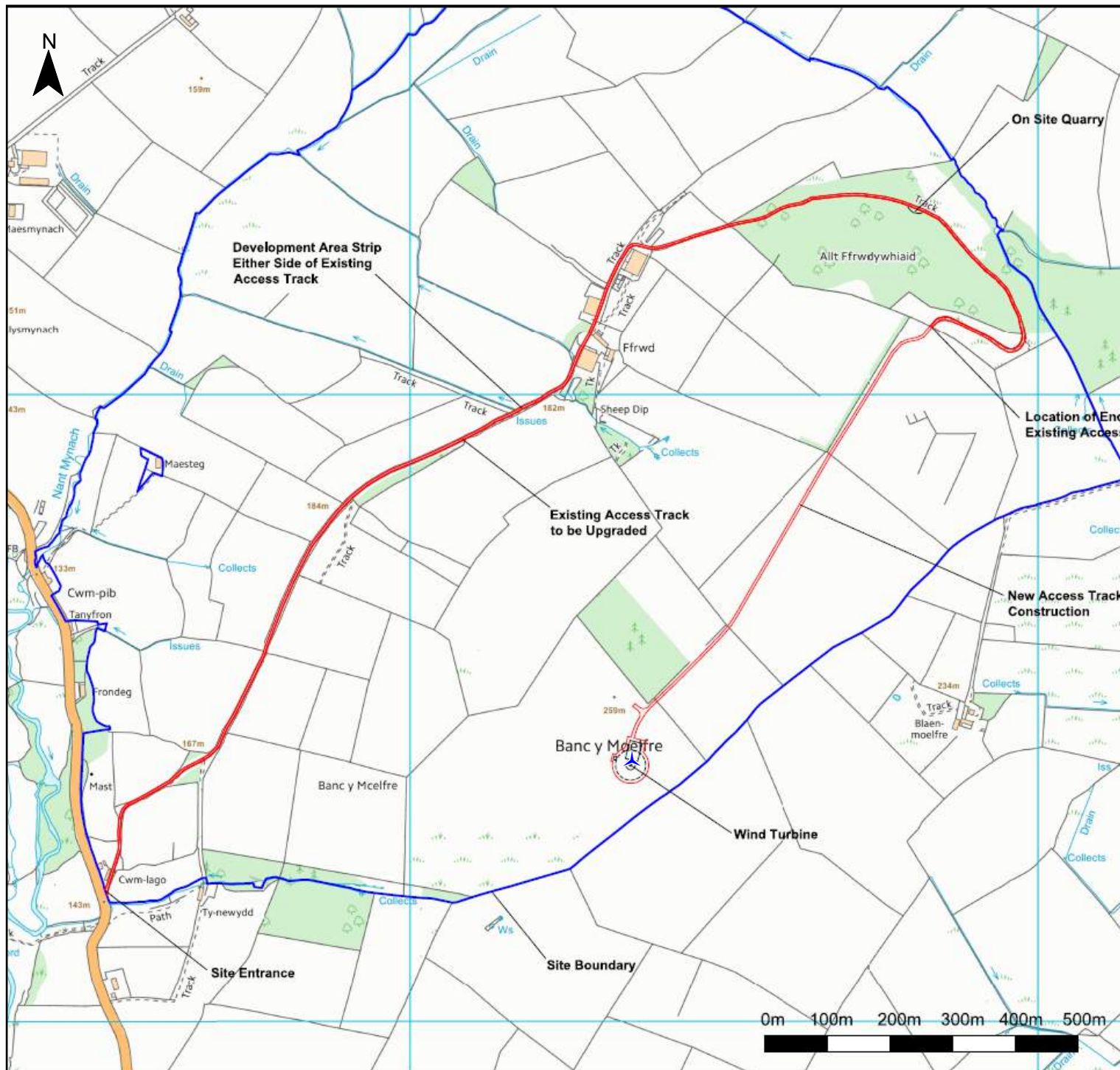

**Client:**  
 Seren Renewables

**On behalf of:**  
 Granell Community Energy

**Project Title:**  
 Ffrwd Farm Wind Turbine

**Figure 2.** Site Location (OS Explorer 1:25,000)





#### Legend

- Site Boundary
- ▲ Turbine location
- Access track

**Approximate Scale (@ A4):**

**Date:** September 2019

**Prepared by:**



**Client:**

Seren Renewables

**On behalf of:**

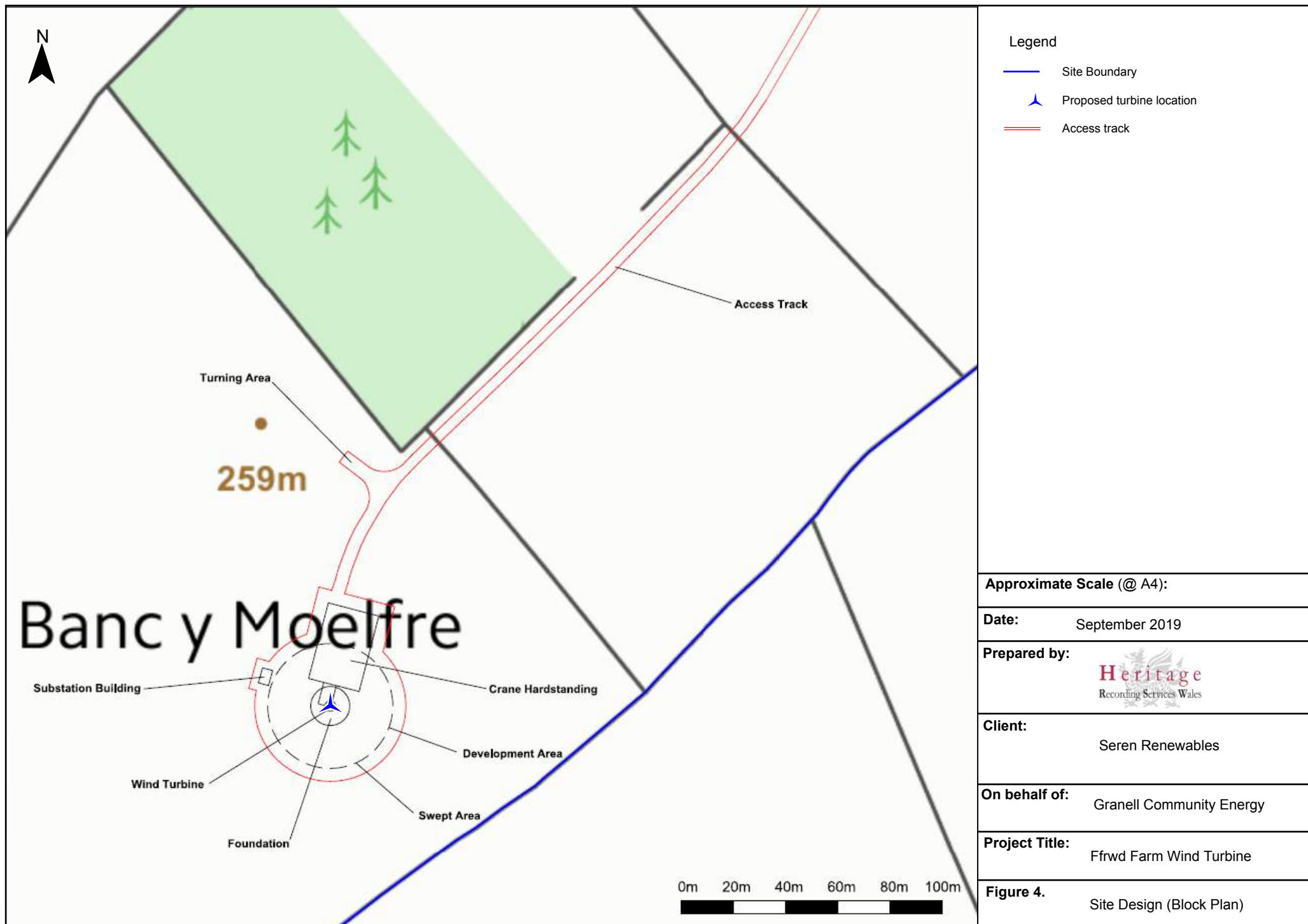
Granel Community Energy

**Project Title:**

Ffrwd Farm Wind Turbine

**Figure 3.**

Site Design Plan







Legend

- Site Boundary
- Turbine location
- Access track

Approximate Scale (@ A4):

Date: September 2019

Prepared by:  


Client: Seren Renewables

On behalf of: Granell Community Energy

Project Title: Ffrwd Farm Wind Turbine

Figure 5. OS Aerial Photo (2014)





#### Legend

- Site Boundary
- ▲ Turbine location
- Access track

**Approximate Scale (@ A4):**

**Date:** September 2019

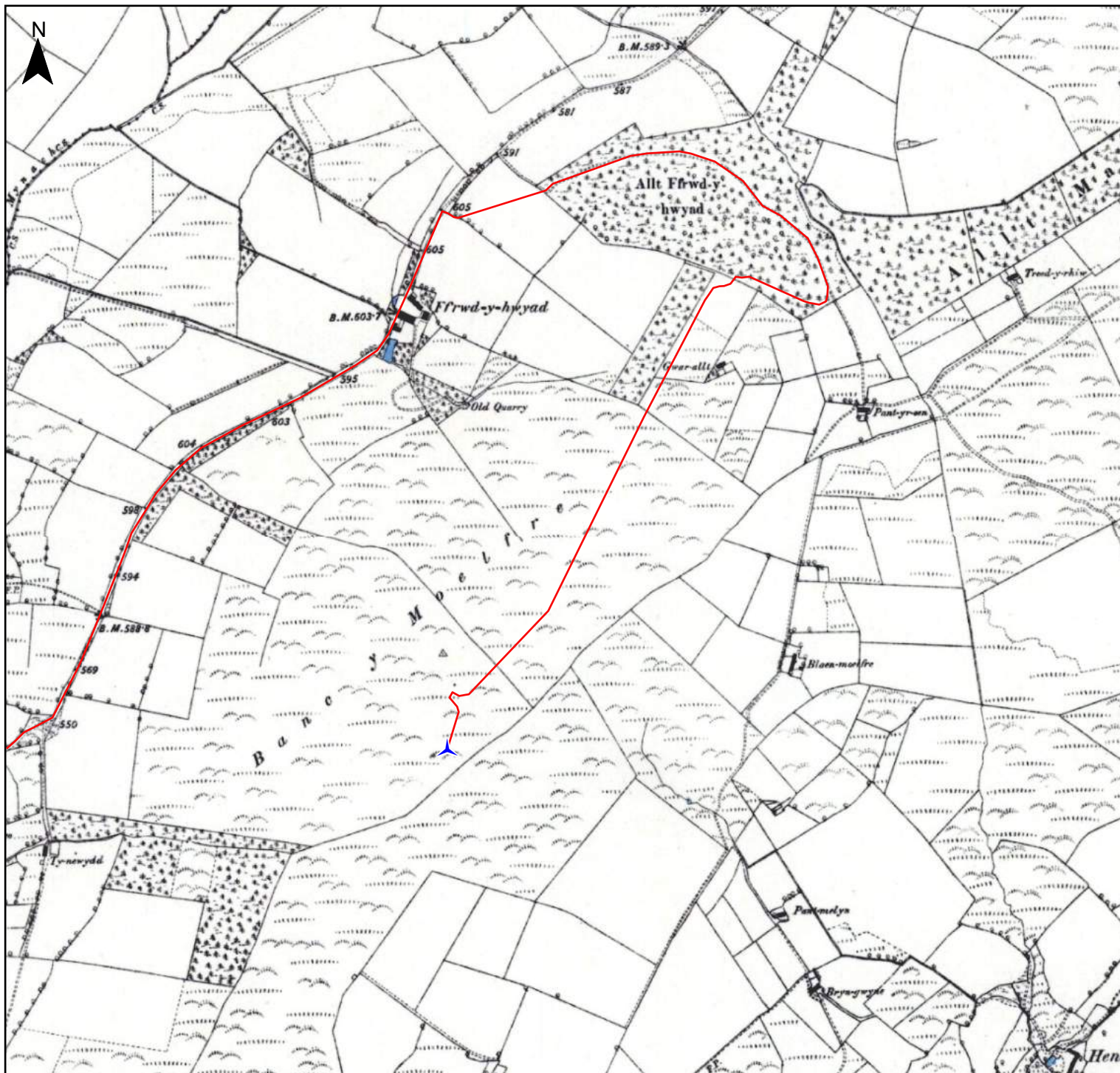
**Prepared by:**  


**Client:**  
 Seren Renewables



**On behalf of:**  
 Granell Community Energy

**Project Title:**  
 Ffrwd Farm Wind Turbine

**Figure 6.**  
 Tithe Map (1839)



#### Legend

-  Turbine location
-  Access track

**Approximate Scale (@ A4):**

**Date:** September 2019

**Prepared by:**



**Client:**

Seren Renewables

**On behalf of:**

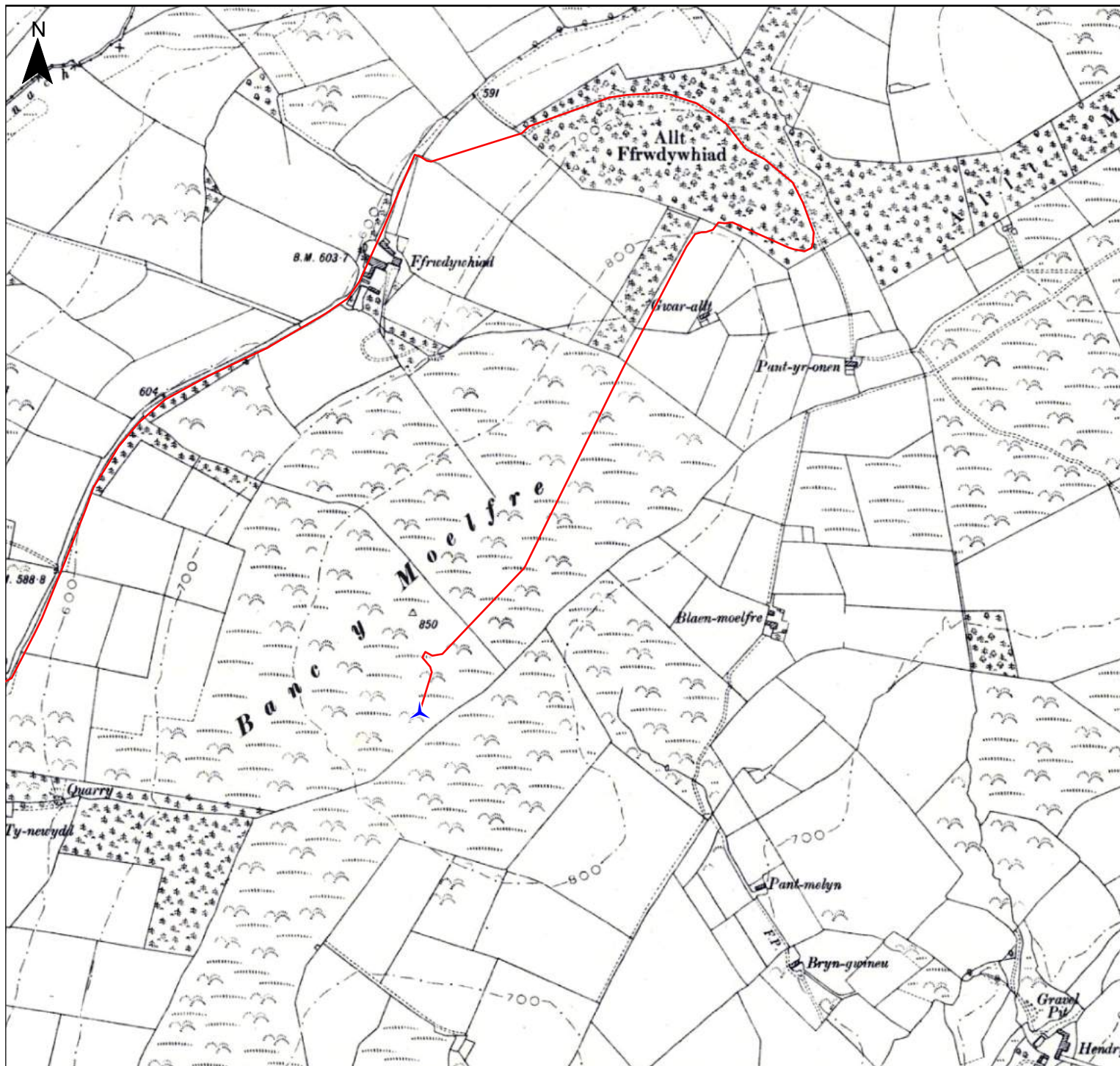
Granell Community Energy

**Project Title:**



Ffrwd Farm Wind Turbine

**Figure 7.** OS First Edition Map (1887)





#### Legend

-  Turbine location
-  Access track

Approximate Scale (@ A4):

Date: September 2019

Prepared by:



Client:

Seren Renewables

On behalf of:

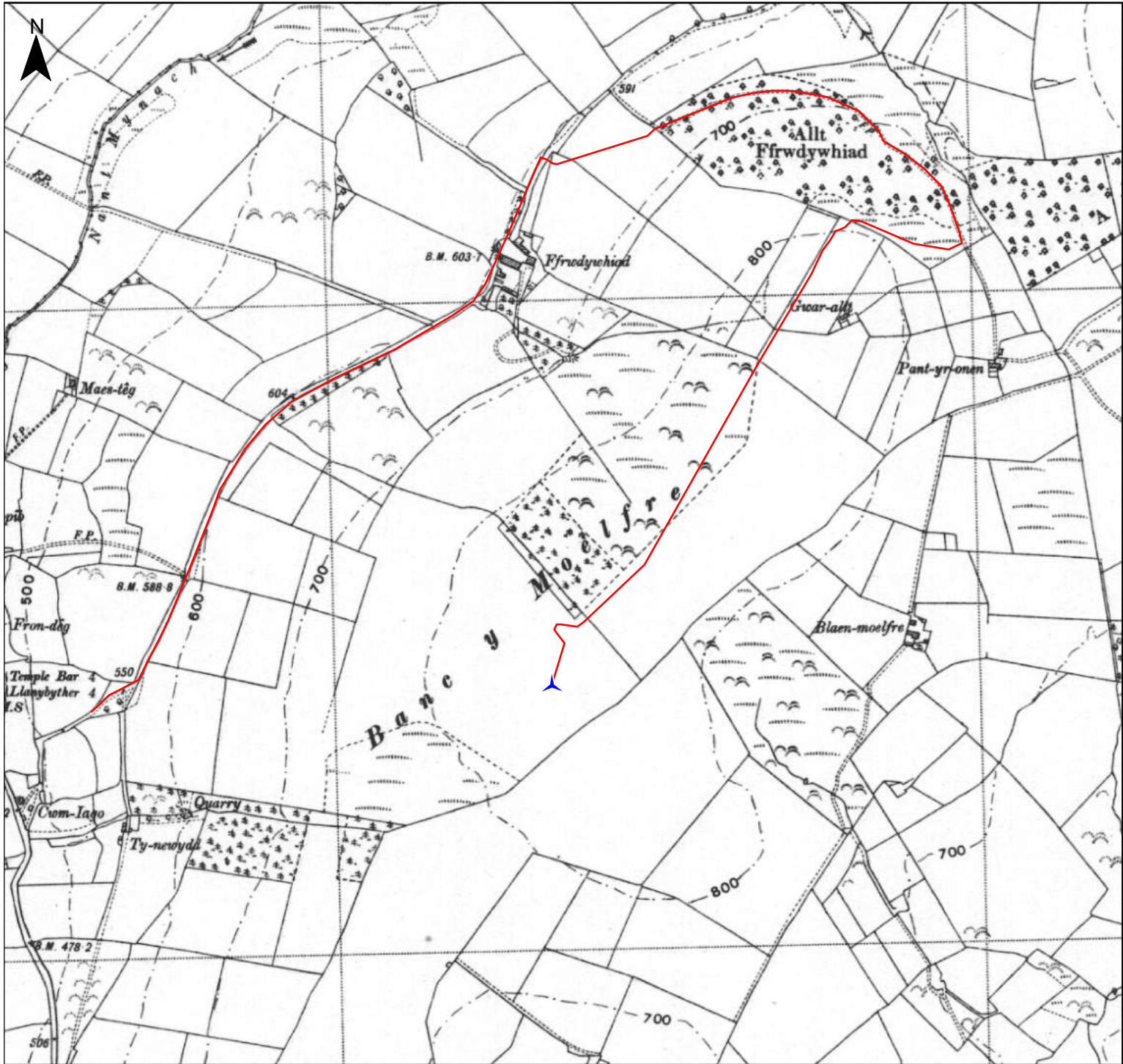
Granel Community Energy

Project Title:



Ffrwd Farm Wind Turbine

Figure 8.

OS Second Edition Map (1907)



#### Legend

-  Turbine location
-  Access track

**Approximate Scale (@ A4):**

**Date:** September 2019

**Prepared by:**



**Client:**

Seren Renewables

**On behalf of:**

Granell Community Energy

**Project Title:**

Ffrwd Farm Wind Turbine

**Figure 9.**

OS 1948 Edition Map

## **APPENDIX II:**

### **Photo plates**





Plate 01. Area of proposed access track following tree line to northwest.



Plate 02. Access from woodland into field for proposed access track.



Plate 03. Working shot during access track creation. Looking northwest.



Plate 04. Access track and field entrance Looking northwest.



Plate 05. Working shot during access track creation. Looking west.



Plate 06. Access track. Looking eastwards.


|  |                       |                                 |   |
|--|-----------------------|---------------------------------|---|
| Project Title: Ffwrdd Farm Wind Turbine, Llanwnnen |                       | Photo Plate No's.<br><br>01- 06 |  |
| Date Taken: 30th Sept 2019                         | Approx. Scale (@ A4): |                                 |   |
| Appropriated by: RSJ                               | Drawing No.           |                                 |   |





Plate 07. Working shot during access track groundwork. Looking west.



Plate 08. Working shot during access track groundwork. Looking east.



Plate 09. Working shot during access track (turning point) groundwork. Looking west.




Plate 10. Working shot during access track groundwork. Looking west.



Plate 11. Working shot during groundwork for crane hardstanding and turbine area. Looking southwards.



Plate 12. Completed groundwork in area of turbine foundation. Looking southwards.

|   |                       |                                 |   |
|---|-----------------------|---------------------------------|---|
| Project Title: Ffwrdd Farm Wind Turbine, Llanwnen |                       | Photo Plate No's.<br><br>07- 12 |  |
| Date Taken: 30th Sept 2019                        | Approx. Scale (@ A4): |                                 |   |
| Appropriated by: RSJ                              | Drawing No.           |                                 |   |

**APPENDIX III:**  
**Archive Cover Sheet**



## ARCHIVE COVER SHEET

Ffrwd Farm Wind Turbine, Llanwnen, Ceredigion

ARCHIVE DESTINATION - RCAHMW

|                                       |   |
|---------------------------------------|---|
| <b>Site Name:</b>                     | Ffrwd Farm Wind Turbine, Llanwnen, Ceredigion |
| <b>Site Code:</b>                     | FF/2019/WB                                    |
| <b>PRN:</b>                           |   |
| <b>NPRN:</b>                          |   |
| <b>SAM No.</b>                        |   |
| <b>Other Ref No.</b>                  | HRSW Rpt No. 195                              |
| <b>NGR:</b>                           | SN 5335 4941                                  |
| <b>Site Type:</b>                     |   |
| <b>Project Type:</b>                  | Archaeological Watching Brief                 |
| <b>Project Manager:</b>               | Richard Scott Jones                           |
| <b>Project Date(s):</b>               | June 26th - July 16th 2109                    |
| <b>Categories Present:</b>            | None  |
| <b>Location of Original Archive:</b>  | HRSW  |
| <b>Location of Duplicate Archive:</b> | RCAHMW  |
| <b>Number of Find Boxes:</b>          | N/A   |
| <b>Location of Finds:</b>             | N/A   |
| <b>Museum Ref:</b>                    | N/A   |
| <b>Copyright:</b>                     | HRS Wales                                     |
| <b>Restrictions to Access:</b>        | None  |



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