

CLFG/01



# CASTELL LLWYD FARM, LLANFABON, CAERPHILLY, GLAMORGAN

WATCHING BRIEF ON GROUNDWORKS RELATING TO THE  
INSTALLATION OF A SINGLE WIND TURBINE

commissioned by Gareth Davies  
on behalf of Clean Earth Energy

15/00499/FULL

February 2016



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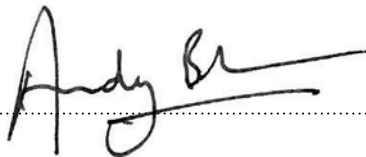
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## PROJECT SUMMARY

Headland Archaeology (UK) Ltd was commissioned to undertake a watching brief in advance of the installation of a single wind turbine on behalf of Clean Earth Energy at Castell Llwyd Farm, Llanfabon, Caerphilly, Glamorgan. The works monitored comprised the breaching of a drystone wall, a walkover to locate and fence off cairns on the side of an access trackway, the excavation of a section through the trackway and the monitoring of the excavation of a trench for access to the turbine from the trackway.

Despite the trackway being identified as possibly Romano-British in origin, no evidence was identified to confirm this suggestion and it is presumably medieval or post-medieval in origin. No archaeological evidence was retrieved from the monitoring of trench excavations. A number of small clearance cairns were identified and fenced off to protect from construction related traffic.

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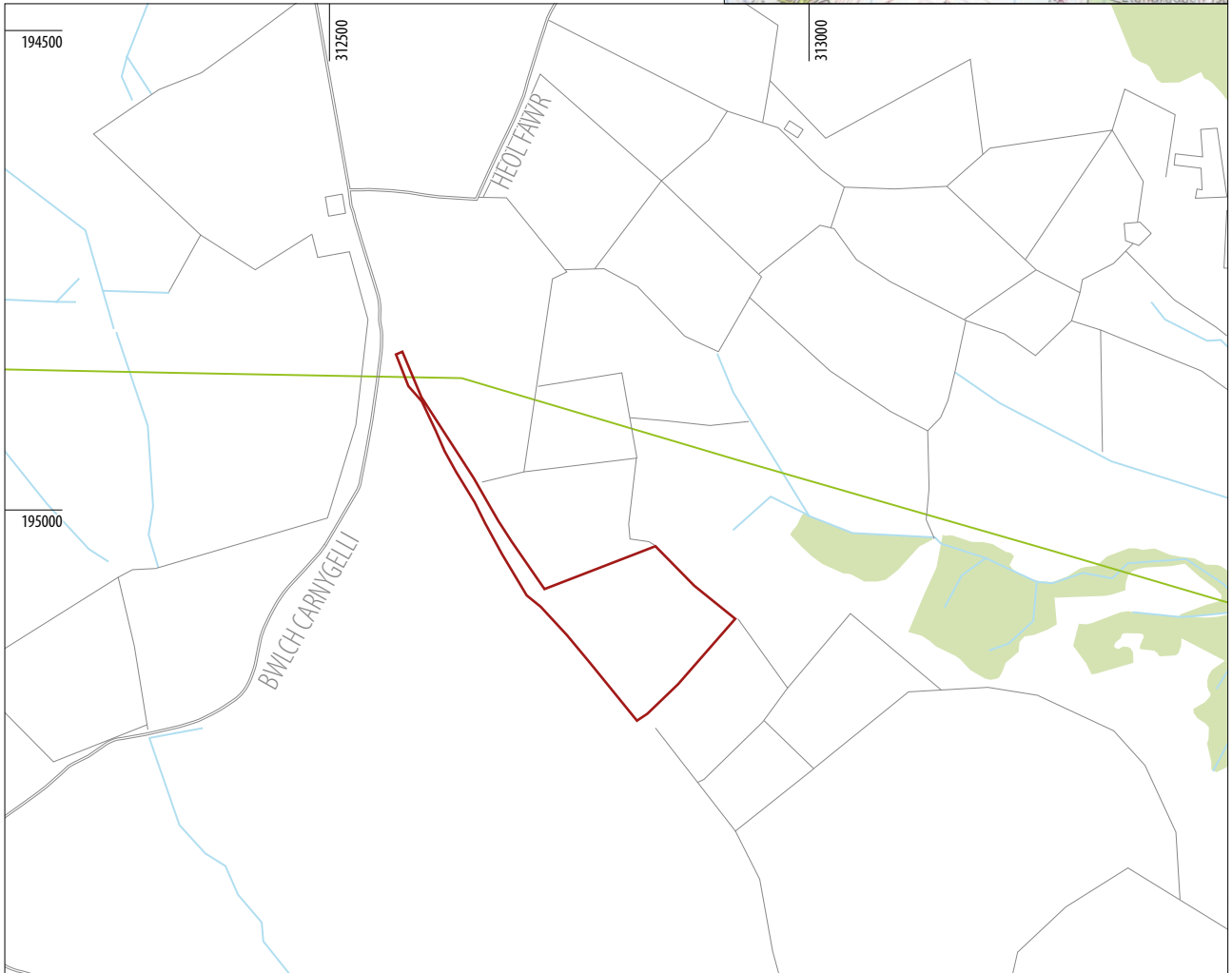
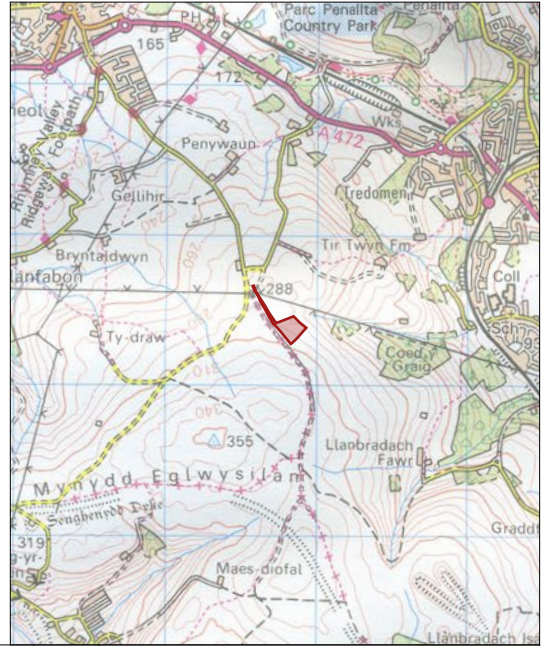
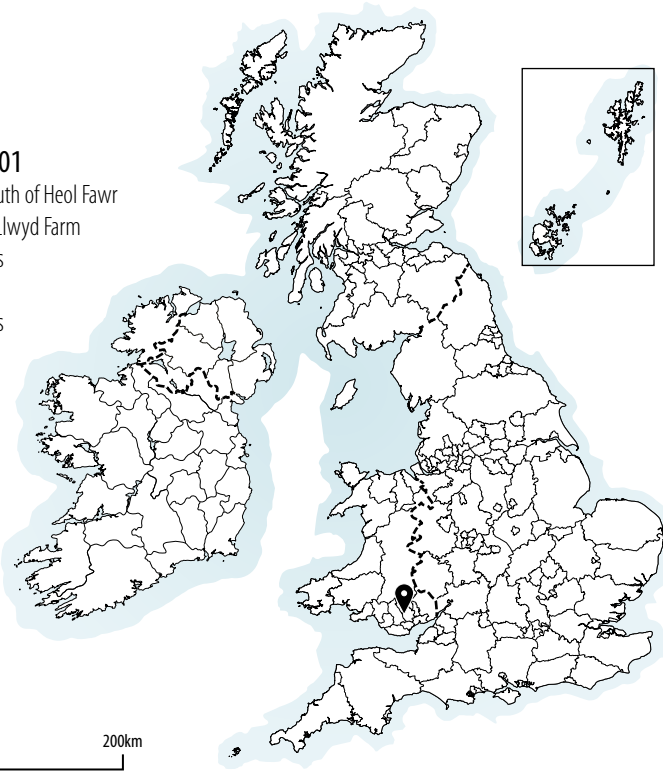
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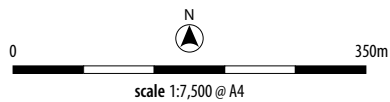
land south of Heol Fawr  
Castell Llwyd Farm  
Heol Las  
Nelson  
Treharris



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**KEY**

-  development boundary
-  electricity transmission line



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# CASTELL LLWYD FARM, LLANFABON, CAERPHILLY, GLAMORGAN

## WATCHING BRIEF ON GROUNDWORKS RELATING TO THE INSTALLATION OF A SINGLE WIND TURBINE

### 1 INTRODUCTION

#### 1.1 PLANNING BACKGROUND

Headland Archaeology (UK) Ltd was commissioned by Clean Earth Energy Ltd to undertake a watching brief during the installation of a single 500kW wind turbine at Castell Llwyd Farm, Llanfabon, Caerphilly, Glamorgan (NGR ST 12807 93357). The groundworks involved multiple stages that included; a walkover survey to locate and fence off cairns, recording of a drystone wall prior to breaching, monitoring of the excavation of part of the access route and the excavation of part of the trackway to determine its morphology. The site was then subject to a post-completion survey following the erection of the turbine and the completion of construction activity.

The development (15/00499/FULL) was granted subject to planning conditions, one of which was a requirement for a programme of archaeological works due to the development site being located next to a possible Roman trackway. This was set out by the Glamorgan Gwent Archaeological Trust (GGAT) in their capacity as archaeological advisors to the local planning authority.

The turbine is located in a field on Castell Llwyd Farm, 1.9km west of Ystrad Mynach and 2km east of Llanfabon. The current land use is pasture, located on the upper north-east facing slopes of Mynydd Eglwysilan at an altitude of c.300m AOD. The adjacent trackway passes over the hills to connect Castell Llwyd Farm to Caerphilly. This is located in the County Borough of Caerphilly (ILLUS 1).

Work was undertaken in accordance with a written scheme of investigation (Delaney 2015) agreed in advance of works by the archaeological advisor and took place in late December with a further site visit in January after the works had been completed.

#### 1.2 GEOLOGY

The soils of this area are well-drained loamy soils and occasionally fine loamy soils with slowly-permeable subsoils of the Withnell 1 Association (SSEW 1983), which overlie the sandstones of the Hughes Member, part of the Pennant Sandstone Formation (BGS 2015).

#### 1.3 ARCHAEOLOGICAL BACKGROUND

The site was subject to a desk-based assessment, walkover survey and historical visual impact assessment in July 2015 by Southwest Archaeology (Southwest Archaeology 2015).

In the report they summarise the site as follows;

‘...land that belonged to the tenement of Twyn-y-Harris, between the lands of the Thomas family and the estates of the former Earl of Plymouth. These tenements and irregular fieldscape are probably medieval in origin, and border on the unenclosed uploads of Mynydd Eglwysilan. The proposed turbine would be located within a field that formed part of the Ystrad Mynach Golf Course (c. 1920–1960) and the track that runs immediately to the west is a reputed Roman road (RR621).’

The majority of the known sites in the area are post-medieval extraction sites (quarries) and post-medieval buildings (farmhouses).

## 2 METHODOLOGY

### 2.1 AIMS AND OBJECTIVES

The aim of the investigations were to satisfy the conditions, specified by GGAT, related to the granting of the planning permission.

The objectives of the programme of archaeological work are as follows:

- to enable the development by fulfilling the archaeological conditions to the satisfaction of the planning authority;
- to ensure the protection, excavation and recording of any archaeological remains that would be disturbed by the development;
- to produce and deposit a satisfactory archive and disseminate the results of the work via grey-literature reporting and publication as appropriate.

The location of these specific works can be seen in **ILLUS 2**.

### 2.2 METHOD

The watching-brief was undertaken in accordance with a Written Scheme of Investigation agreed with the archaeological advisors to the planning authority (GGAT).

The archaeological works involved:

- walkover survey identifying possible clearance cairns that were potentially under threat from heavy construction traffic and demarcating these areas;
- recording of a drystone wall, before and after breaching;
- observing the clearance of overburden of an area for access from the current track to the wind turbine base;
- machining a 1.8m width slot across the existing trackway to record its structure;
- post-completion survey after works have been completed.

Areas enclosed within the field boundary (including the turning circle and base for the turbine; to the east of the drystone wall) were not monitored (**ILLUS 2**).

Overburden and subsoil were removed by a mechanical excavator fitted with a flat-bladed ditching buckets. All machine stripping was carried out under close archaeological supervision. All machinery was kept off the stripped areas until the monitoring archaeologist confirmed the absence of archaeological features. Spoil was stockpiled adjacent to the development area.

All recording was undertaken on pre-printed pro forma record cards. 35mm black-and-white prints were taken with a graduated metric scale clearly visible, supplemented by digital photography. Sections and plans were recorded at 1:20 and 1:50, as appropriate. An overall site plan at an appropriate scale and relative to the National Grid was recorded using a Trimble dGPS system.

The resulting archive (records) will be organised and deposited with Glamorgan and Gwent Historic Environment Record to

facilitate access for future research and interpretation for public benefit.

Fieldwork was completed in late December 2015 followed by a post-completion survey in January 2016.

## 3 RESULTS

### 3.1 WATCHING BRIEF

#### Introduction

Full trench descriptions, including orientation, length and depth are presented in Appendix 1. Contexts are ordered by trench number: i.e. Trench 1 (1001), Trench 2 (2001). Cut features are shown as square brackets e.g. [1001] whilst deposits are expressed as rounded brackets e.g. (1002).

Whilst the drystone wall could be considered a standalone feature, as it stood on top of and crossed the area for Trench 1, it was recorded as part of Trench 1.

All works and their location can be found in **ILLUS 2**, including general shots of features for identification.

Deposits were generally consistent across the site, with topsoil and subsoil overlying the geological horizon which was encountered at c.0.50m below ground level. There was some variation over the trackway where banking or displacement of geological soils had occurred, forming a slight rise on either side of the trackway, which could be seen in section.

The simple stratigraphy of the trenches consisted of topsoil over a sandy clay geology. No archaeological finds, features, or deposits were encountered.

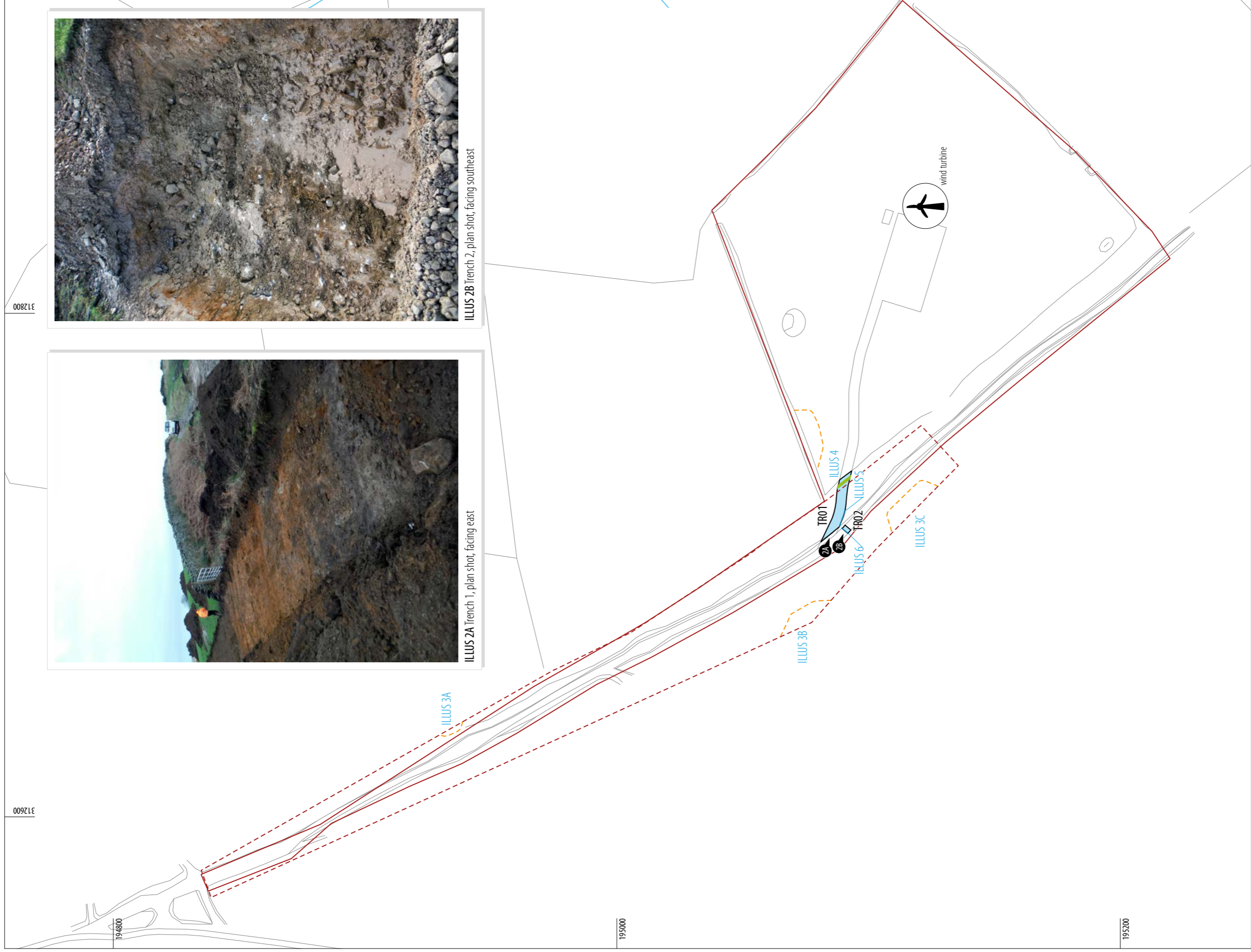
### 3.2 WALKOVER

Before work commenced, a walkover survey was conducted across site. This concentrated on the areas immediately around the trackway where construction traffic or the placement of welfare cabins was likely to have an impact.

The site had a heavy cover of grass, moss and bracken which made identification of the small clearance cairns slightly difficult. Nevertheless, four areas of cairn clusters were identified and fenced off with road pins and Netlon mesh fencing (**ILLUS 3**). It was agreed that these would be avoided by construction works.

### 3.3 DRYSTONE WALL

Prior to the commencement of groundworks the area of the drystone wall [1001] that was to be breached was subject to a full survey and photographic record (**ILLUS 4**).



KEY

- development boundary
- walkover area
- trench location
- breached wall
- cairn fenced area
- track way



0 50m

scale 1:1,500 @ A3





**ILLUS 3A** Cairn Cluster 1 at the edge of the drystone wall field boundary, facing north-east    **ILLUS 3B** Cairn Cluster 2 behind welfare units, facing west  
**ILLUS 3C** Cairn Cluster 3 at the edge of the access area, facing south-west

The wall was recorded as standing 1.63m high (1.40m without the top coping stones) and 0.48m wide. It was standard construction, with larger footing or foundation stones slightly sunk into the topsoil (1002). The wall narrowed toward its top, with banding or through-stones providing support throughout. The facing stones were packed around a core of hearting stones.

The wall showed signs of previous repair and reconstruction (ILLUS 4), with modern vented red bricks being used as through-stones in certain places and some parts of the wall showing some collapse of the structure. Disused red brick footings were recorded in one place by the foot of the wall, suggestive of a smaller, subsequently demolished, structure being there at some point.

### 3.4 ACCESS TRENCH

Trench 1 measured 22m in length by 4.20m in width and was aligned roughly northeast-southwest. It was located between the existing trackway and the breached wall and into the site leading to the area cleared for the wind turbine.

The natural geological horizon (1005) was represented by a mid-reddish yellow, firm, sandy clay with a distinct, sharp boundary. This deposit was encountered at varying depths across the trench, from 0.45m below ground level (BGL) near the drystone wall, increasing to 0.70m toward the trackway.

Towards the trackway the natural horizon was overlain by a 0.10m deep deposit of soft dark greyish brown, sandy clay, with frequent inclusions of stone (1004) (ILLUS 5). It was identified as being a lower

subsoil and possibly represented the displacement of soils where the trackway had sunk.

Throughout the remainder of the trench, the deposit overlying the natural was an intermittent, thin, mid-reddish brown sandy clay, subsoil (1003). This deposit measured approximately 0.10m in depth and was interwoven with frequent thick roots. The upper horizon in the sequence was formed by a substantial, friable mid-greyish brown loamy topsoil (1002). Bracken growth at its surface had left frequent root inclusions from the topsoil, through the subsoil. When the topsoil was removed, there were clear bands of rooting, visible across the base of the trench.

### 3.5 TRACKWAY

Trench 2 consisted of a slot, 3.0-m wide by 1.8m long, dug across the width of the trackway on a roughly northeast – southwest alignment. Although the natural horizon was encountered at a depth of 0.50m BGL, the trench was excavated to a depth of 1.0m in order to verify the substrate before recording (ILLUS 6). This natural horizon was represented by a very firm, poorly sorted, stony deposit (2004).

Overlying this was a very clean, 0.20m deep, light reddish-brown sandy layer (2002), similar to the natural horizon encountered in Trench 1 (1005). Similar to deposits recorded in Trench 1, a linear band of dark sandy organic rich material (2003) was identified. This was thought to represent the remains of a line of roots, truncating the natural ground surface.



**ILLUS 4A–B** Drystone wall [1001] showing clear signs of reconstruction, facing north-east



Partially sealing both (2003) and (2002), was a deposit consisting of rounded stones, supported within a plastic greyish brown silty clay matrix (2006), identified toward either edge of the trackway. This appeared to be a natural horizon through which the base of the extant trackway [2001] had sunk.

number of possible clearance cairns, was no longer in situ. However, no damage from construction, had occurred to any of the stones.

No further damage to the trackway was immediately evident.

The trackway consisted of well sorted stone to a maximum depth of 0.30m and was slightly sunken toward its centre, creating an appearance of a hollow-way in places. It seems likely this sunken centre is from use rather than a deliberately constructed inverse camber. Both the morphology of the trackway and its apparent correspondence to the drystone wall boundary, suggested that it dates from the medieval period or later and is unlikely to be of Romano-British construction.

## 4 DISCUSSION

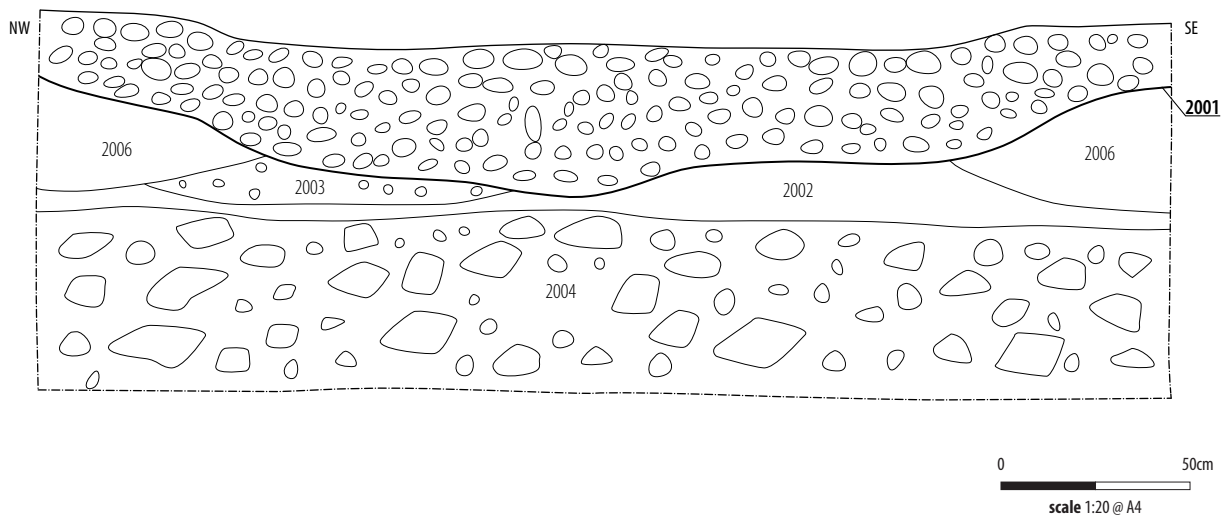
The high vegetation encountered during the walkover survey made some positive identification difficult, nevertheless four areas of clearance cairns were identified and fenced off from possible construction traffic.

Numerous historic repairs and reconstructions of the drystone wall were noted along its length, but none were readily visible in the section that was breached. It is a possible concern that the drystone wall might need further consolidation, either side of the access, to stabilise it and prevent any collapse in the future.

No archaeological features or deposits were encountered as a result of the stripping of the access track between the extant track and the drystone wall.

### 3.6 CONDITION SURVEY

Where the drystone wall was breached, a secure gated opening has been constructed. The two newly created terminals of the wall have been sympathetically reconstructed re-using the original stone, suiting its environment and setting (ILLUS 7). On the day of the site visit, the fencing that had been placed to prevent damage to a



**ILLUS 6** South-east facing section of post-medieval trackway [2001] in Trench 2

## 5 CONCLUSIONS

The walkover survey and erection of fencing ensured that no upstanding archaeological features were damaged as a result of the development.

The section through the trackway, coupled with the supporting map evidence established that it did not represent the remains of a Roman road, rather, a trackway of post-medieval construct.

No further archaeological features or deposits were encountered as a result of the works.

The morphology of the trackway itself does not seem to indicate it being of Romano-British construction and no underlying previous trackway was observed. The sunken centre of the track and the single layer of well sorted stone of which it was formed seem to indicate a likely medieval or post-medieval construction. It also seems to correlate closely to the current field boundaries which are likely to reflect medieval or post-medieval land divisions.

Map evidence also suggests that the trackway is of post-medieval construction. The 1st Edition Ordnance survey (1885) depicts a single trackway crossing the area, whereas the 2nd edition (1905) clearly shows two tracks, the more westerly of which is described as the 'supposed Roman Road' (ILLUS 8). The track investigated during the archaeological monitoring more closely corresponds to the easterly track, closer to the field boundaries (ILLUS 8 and 9).

7A



7B



ILLUS 7A–B Post-condition of drystone wall [1001]

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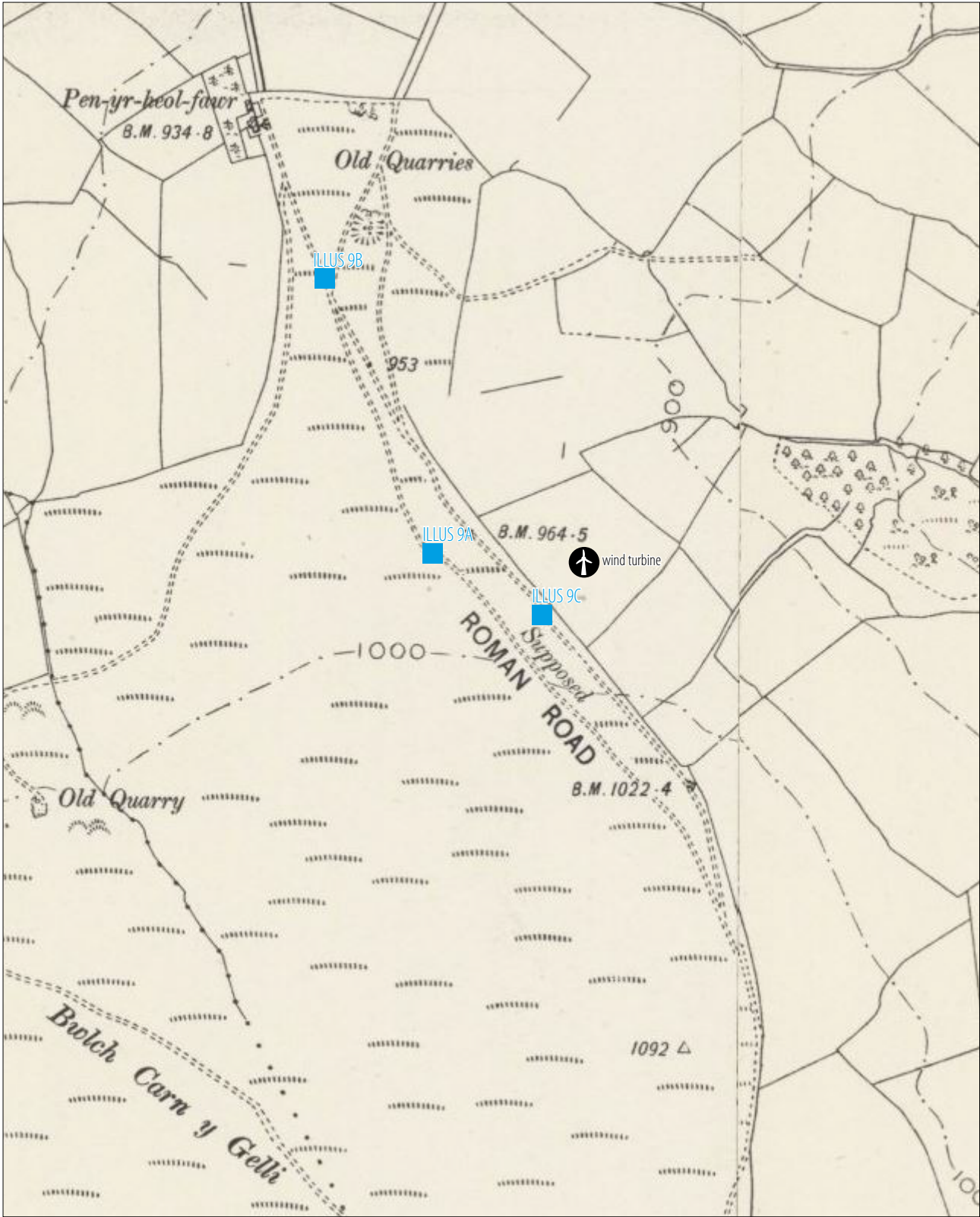
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ILLUS 8 Ordnance Survey 2nd edition (1905) map showing trackways and locations of Illus 9A-C



**ILLUS 9A** Possible Romano-British trackway facing south-east (2022)

**ILLUS 9B** Possible Romano-British trackway, shown to left of track way [2001] at intersection to north of 9A

**ILLUS 9C** Post-medieval trackway [2001] showing verges and sunken centre, facing south-east

## 6 APPENDICES

### APPENDIX 1 TRENCH RECORDS

TR1	Orientation	L (m)	W (m)	Av. D (m)
	NE-SW	20.00	4.20	0.60
Context	Description	D BGL (m)		
1001	Drystone wall. Shows signs of rebuild in Victorian era (vented red brick). No bonding, some rounded stone but mainly flat limestone. Heavy lichen growth. Sits in topsoil. Thicker on base by footings and narrower on the top with coping stones. Facing stones are packed with hearting which is thick at the base. Banded with through-stones to provide structure. Possible one or two courses of these.	1.63		
1002	Topsoil. Friable, loamy soil, mid greyish brown, full of bracken roots.	0.0–0.45		
1003	Subsoil. Sandy Clay, mid reddish brown, soft, Areas of rooting from bracken.	0.40–0.50		

#### Trench Summary

Bracken rich, rooting topsoil comes down onto a small subsoil lens of clay then onto hard reddish yellow sandy clay natural. Towards the trackway the overburden is deeper and a second deposit of soft, stony, sandy clay is formed. Possibly somehow related to the effects of the trackway and displacement of soils.

TR2	Orientation	L (m)	W (m)	Av. D (m)
	NE-SW	3.00	1.85	1.00
Context	Description	D BGL (m)		
2001	Trackway. Well sorted stone, round. Slightly sunken in centre in comparison to sides. Particularly on the SW side. Seems this is from use rather than construction. Stone is in a plastic greyish brown silty clay matrix.	0–0.30		
2002	Topsoil. Friable, loamy soil, mid greyish brown, full of bracken roots.	0.30–0.60		
2003	Organic rich, black, fine sediment, stony. Slight linear to it but unsure. Decay of vegetation/bracken under track. Could be clearance or removal of hedge line before.	0.40–0.50		
2004	Very hard stony deposit. Mid to large stone, poorly sorted – flat and rounded stone. Greyish brown firm clay. Very hard possibly from compression of track. Geological.	–		
2005	Pink-Grey firm clay with laminations. Present of the edges of the trackway slightly built up. Looks like it could have been displaced by sinking trackway to build to edges.	0.25–0.50		

#### Trench Summary

Trackway is thick and comes down onto a fine sand in the centre, and hard clay at the sides. The trackway has a slight depression to it and seems like it has sunk over use rather than been constructed that way forming a proto-Holloway. Under clay and sand is a small linear of organic material, seems like it could be decayed bracken, clearance of vegetation before construction or even a previous hedge-line/boundary. Below track is a hard stony geological surface.







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