

# TOMEN FAWR SETTING IMPACT ASSESSMENT

## Full Report



Ymddiriedolaeth Archaeolegol Gwynedd  
Gwynedd Archaeological Trust

# Tomen Fawr Setting Impact Assessment

## Full Report

Project No. G2564

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Prepared for: Mr Harri Parry

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Written by: Neil McGuinness



**Front cover image: View of Tomen Fawr from the south (archive reference number: G2564\_013)**

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## ***CRYNODEB ANHECHNEGOL***

Comisiynwyd Ymddiriedolaeth Archaeolegol Gwynedd gan Mr Harri Parry i baratoi Asesiad Effaith Lleoliad ymlaen cais cynllunio ar gyfer cyfleuster llwytho a dadlwytho, man newydd i drosglwyddo gwastraff a ffordd fynediad cysylltiedig yn Fferm Glanllynau, Chwilog, Gwynedd. Roedd Asesiad Effaith Lleoliad yn ofynnol gan Cadw oherwydd agosrwydd o Heneb Gofrestredig CN031 Tomen Fawr, cylchedd amddiffynnol canoloesol, ac fe'i cwblhawyd yn unol â'r canllawiau yn "Asedau Lleoliadau Hanesyddol Cymru", proses asesiad pedwar cam a ddiffiniwyd gan Cadw. Aseswyd effaith weledol y datblygiad arfaethedig i fod wedi ei gyfyngu i olygfeydd de-ddwyrain o'r heneb, a golygfeydd arfordirol tuag at yr heneb o'r de-ddwyrain. Aseswyd yr effaith hyn i fod yn negyddol ond nid yn arwyddocaol, tra bod effeithiau anweladwy o'r datblygiad arfaethedig, fel synau neu arogleuon, yn debygol o gael effaith bychan iawn. Ar y cyfan, aseswyd bod effaith y datblygiad arfaethedig ar leoliad Tomen Fawr yn negyddol, ond mae maint yr effaith yn fychan, gan wneith y cynllun achosi ychydig iawn o newidiadau amlwg i leoliad yr heneb.

## ***NON-TECHNICAL SUMMARY***

Gwynedd Archaeological Trust was commissioned by Mr Harri Parry to prepare a Setting Impact Assessment in advance of the a planning application for a proposed loading and unloading facility, a new waste transfer area and an associated access road, at Glanllynau Farm, Chwilog, Gwynedd. A Setting Impact Assessment was required by Cadw due to the proximity of Scheduled Monument CN031 Tomen Fawr, a medieval defensive ringwork, and was completed in accordance with the guidance in "Setting of Historic Assets in Wales", a four stage assessment process defined by Cadw. The visual impact of the proposed development was assessed as being restricted to south easterly views from the monument and coastal views towards the monument from the south east and were assessed as being negative but not significant, whilst non-visual impacts of the proposed development, such as the introduction of noises or smells were likely to be minimal. Overall, the impact of the proposed development on the setting of Tomen Fawr was assessed to be negative, but the magnitude of this impact was minor, as the proposed development will result in slight but noticeable changes to the setting of the monument.

# 1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by Mr Harri Parry to prepare a Setting Impact Assessment in advance of the application for planning permission for a proposed loading and unloading facility, a new waste transfer area and an associated access road, at Glanllynau Farm, Chwillog, Gwynedd (NGR SH45543734; Figure 01). This assessment is part of a pre-planning consultation with Gwynedd Council and has been undertaken further to feedback from Cadw. In correspondence with Gwynedd Council in March 2017 (ref.: Y17/000175), Cadw stated that the proposed access road will be within 170m of the Scheduled Monument CN031 Tomen Fawr (Medieval Ringwork), with the base for the crane within 300m. Due to the proximity of the Scheduled Monument and the limited vegetation screening within the proposed development area, a report assessing the impact of the development on the setting of the Scheduled Monument is required as part of the planning application. The layout of the proposed development has changed since March 2017, and this report is based up on the most recent proposal as supplied by Mr Parry in August 2018. The methodology used for this impact assessment has been approved by Cadw and is in accordance with the guidance set out in Setting of Historic Assets in Wales (Cadw, 2017), a four stage assessment process (cf. sec. 3.0). Cadw reviewed the findings of Stages 1 and 2 (McGuinness 2018) before the assessment proceeded to stages 3 and 4.

The first two stages of the Setting Impact Assessment were completed in September 2018; stages 3 and 4 were completed in January 2019. The entire project has been undertaken in accordance with the following guidance:

- Guidelines for digital archives (Royal Commission on Ancient and Historic Monuments of Wales, 2015).
- Historic Environment Record (HER) Guidelines for Archaeological Contractors (Version 1.3; draft) (Gwynedd Archaeological Trust, 2014);
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015);
- Planning Policy Wales (Welsh Government 2016);
- Setting of Historic Assets in Wales (Cadw, 2017); and
- Standard and Guidance for Desk-Based Assessment (Chartered Institute for Archaeologists, 2014).

Gwynedd Archaeological Trust is certified to ISO 9001:2015 and ISO 14001:2015 (Cert. No. 74180/B/0001/UK/En) and is a Registered Organisation with the Chartered Institute for

Archaeologists and a member of the Federation of Archaeological Managers and Employers (FAME).

This project is monitored by Cadw and the content of this GAT report must be approved by Cadw prior to final issue.

The Historic Environment Record (HER) Event Primary Reference Number for this project is 45279; the HER Enquiry number is GATHER962.

## 2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

As specified on *Archwilio*, scheduled monument CN031 is a medieval ring motte without a bailey, defended by a ditch on all sides except the south, where the natural slope was scarped to produce the same effect and the material used to emphasise the bank encircling the top.

The Tomen Fawr ringwork now stands in isolation, but was a Norman defensive enclosure, later reused by the Welsh Princes and eventually serving as the centre of the township of Ffriddlwyd (Evans 2008). The township was later given to the Cistercians and became a grange of the Aberconwy Abbey, but returned to the Crown through an exchange. Traces of a possible rectangular structure survive within the ringwork and small depressions in the grass may indicate the positions of gateposts. No associated field systems have been identified within the surrounding area (*ibid.*).

In 2004, GAT completed a programme of archaeological work, including evaluation, excavation and watching brief, in advance of, and during, the construction of the A497 Road Improvement Scheme between Abererch and Llanystumdwy and an associated gas pipeline realignment scheme (Smith and Roberts 2006; Davidson, Smith and Roberts, 2007).

Ninety-nine evaluation trenches were opened across the 6.5km length of the scheme. Evidence for archaeological activity within these was mainly limited to post-medieval agricultural activity, but six of the trenches contained archaeology of greater significance, including evidence for Romano-British domestic activity identified at the western end of the scheme and Early to Late Bronze Age burnt mound and funerary activity within the central and eastern portions of the scheme. The Late Bronze Age site included a fragmented vessel made from coarse pottery buried in a small pit. An Early Bronze Age funerary site was excavated towards the eastern end of the scheme, northeast of Afon wen Farm and c.400m from Glanllynau Farm. The site incorporated a large enclosure ditch forming a ring barrow, at the centre of which were two burial pits each containing a cremation urn.

The archaeological watching brief followed on from the excavation phase and was conducted across the entire length of the road scheme but no further activity was identified during this phase. In 2007 and 2008, GAT completed an archaeological assessment and controlled strip at Glanllynau Farm in advance of a storage yard extension, located 150m east of Tomen Fawr (Roberts 2007; Evans 2008). Archaeological activity was limited to two suspected prehistoric pits; no evidence for medieval activity was identified within the controlled strip area.

## **3 METHODOLOGY**

### **3.1 Impact Assessment**

The impact assessment has been undertaken in accordance with the best-practice guidance set out in *Setting of Historic Assets in Wales* (Cadw, 2017). As stated in the guidance, the document “outlines the principles used to assess the potential impact of development or land management proposals within the settings of World Heritage Sites, ancient monuments (scheduled and unscheduled), listed buildings, registered historic parks and gardens, and conservation areas” (ibid.,: ii). Setting is defined in the guidance as the broader landscape context into which the individual historic asset is set; this context includes physical and cultural factors specific to that location.

The assessment of the impact of the proposed development on the setting of the Tomen Fawr Scheduled Monument was carried out in the four stages specified in the guidance document:

- Stage 1: Identify the historic assets that might be affected by a proposed change or development;
- Stage 2: Define and analyse the settings to understand how they contribute to the significance of the historic assets and, in particular, the ways in which the assets are understood, appreciated and experienced;
- Stage 3: Evaluate the potential impact of a proposed change or development on that significance; and
- Stage 4: If necessary, consider options to mitigate or improve the potential impact of a proposed change or development on that significance.

Following consultation with Cadw, it was agreed that a draft copy of the findings from Stages 1 and 2 would be submitted to Cadw for review and comment before Stage 3 of the process was initiated. The initial draft of stages one and two has been published as a stand alone report (McGuinness 2018). This report contains the findings from all four stages of the assessment.

More detailed information regarding the individual assessment stages is included overleaf.

### **3.1.1 Stage 1: Identify the historic assets that might be affected by a proposed change or development**

This was undertaken as follows:

- The location, size and scale of the proposed development was examined; and
- The location and nature of identified historic assets was considered.

The historic asset that is affected by the proposed development has been identified by Cadw as the Tomen Fawr Scheduled Monument CN031 (ref.: Y17/000175). Desk based viewshed analyses performed as part of this assessment considered the impact of the proposed development on the setting of all 10 of the Scheduled Monuments within a 5km radius of the proposed development. The analyses confirm that due to distance and topography, Tomen Fawr is the only Scheduled Monument potentially impacted.

The regional Historic Environment Register ((HER) Gwynedd Archaeological Trust, Craig Beuno, Ffordd y Garth, Bangor, Gwynedd LL57 2RT) was examined for information concerning the affected monument and nearby assets; The National Monuments Record of Wales (Royal Commission on the Ancient and Historical Monuments of Wales, Plas Crug, Aberystwyth SY23 1NJ) was also checked for additional data including aerial photographs; and LiDAR digital terrain model data, supplied online by Natural Resources Wales (<http://lle.gov.wales/Catalogue/Item/LidarCompositeDataset?lang=en>), was also examined to provide topographic information.

### **3.1.2 Stage 2: Define and analyse the settings to understand how they contribute to the significance of the historic assets and, in particular, the ways in which the assets are understood, appreciated and experienced.**

The setting of a historic asset is made up of:

- its current surroundings
- our present understanding and appreciation of the historic asset; and
- what (if anything) survives of its historic surroundings.

Stage two should clearly identify the key factors relating to setting which contribute to the significance of the historic asset. The Setting of Historic Assets in Wales (Cadw, 2017) provides a series of questions to help define the significance of the asset:

- How do the present surroundings contribute to our understanding and appreciation of the historic asset today?
- Thinking about when the historic asset was first built and developed:
  - what were its physical, functional and visual relationships with other structures/historic assets and natural features?
  - what topographic or earlier features influenced its location/what was its relationship to the surrounding landscape/was it constructed to take advantage of significant views or to be a part of a significant view?
- Thinking about changes since the historic asset was built:
  - has its function or use changed? What is the current condition of the ringwork and how is it managed?
  - what changes have happened to the surrounding landscape/streetscape?
  - have changes happened because of changes to the historic asset or to its historical setting?
  - has the presence of the historic asset influenced changes to the landscape, for example, where a monument has been used as a marker in the layout of a field enclosure/ has the presence of the historic asset influenced the character of the surrounding landscape/streetscape/have historic and designed views to and from the historic asset changed?

- Thinking about the original layout of the historic asset and its relationship to its associated landscape:

were these relationships designed or accidental/how did these relationships change over time?

how do these relationships appear in the current landscape; are they visual or buried features?

- Are there other significant factors, such as historical, artistic, literary, place name or scenic associations, intellectual relationships (for example, to a theory, plan or design), or other non-visual factors such as sounds or smells that can be vital to understand the historic asset and its setting?.

Stage 2 also identifies the viewpoints from which the impact of the proposed change or development should be assessed, taking into account:

- views to, from and across the historic asset that were designed and developed when the historic asset was first created
- views to, from and across the historic asset which are linked with a time in its history
- important modern views to, from and across the historic asset – for example, popular visitor viewing points

### **3.1.3 Stage 3: Evaluate the potential impact of a proposed change or development on that significance.**

The Setting of Historic Assets in Wales states that at the end of stage 3, the assessment should be able to identify the impact that the proposed development will have within the setting of a historic asset. The impact will be expressed as positive, neutral or negative and an indication of its magnitude given. The photographs from the viewpoints identified in Stage 2 will be used to assess and explain the impact of the proposed development along with the use of MapInfo GIS for data gathering and digital modelling.

For Stage 3, the Setting of Historic Assets in Wales lists 11 factors to be considered:

1. the visual impact of the proposed change or development relative to the scale of the historic asset and its setting;
2. the visual impact of the proposed change or development relative to the location of the historic asset; this will include an assessment of the distance of the development from the asset;
3. whether the proposed change or development would dominate the historic asset or detract from our ability to understand and appreciate it — for example, its functional or physical relationship with the surrounding landscape and associated structures and/or buried remains;
4. the presence, extent, character and scale of the existing built environment within the surroundings of the historic asset and how the proposed change or development compares with this;
5. the lifespan of the proposed change or development and whether or not the impact might be reversible.
6. the extent of tree cover, whether it is deciduous or evergreen, and its likely longevity;
7. the impact of artificial lighting — for example, on night-time view;
8. the capability of a landscape setting to absorb change or new development without the erosion of its key characteristics;
9. the impact of the proposed change or development on non-visual elements of the setting and character of the historic asset, such as sense of remoteness, evocation of the historical past, sense of place, cultural identity or spiritual responses;

10. the impact of non-visual elements of the proposed change or development, such as the removal or addition of noises and smell; and

11. the cumulative effect of the proposed change or development — sometimes relatively small changes, or a series of small changes, can have a major impact on our ability to understand, appreciate and experience a historic asset.

At the end of stage three the impact of the proposed development on the setting of the Tomen Fawr Scheduled Monument is expressed as **positive**, **negative** or **neutral**. Following the guidance set out in Design Manual for Roads and Bridges (Volume 11, Section 3, Part 2) (Highways Agency, 2007), an indication of the magnitude of the impact is given as either **major**, **moderate**, **minor**, **negligible** or **no change** using the criteria shown in Table 1.

<b>Magnitude of Impact</b>	<b>Criteria</b>
<b>Major</b>	Comprehensive changes to the setting of an historic asset
<b>Moderate</b>	Considerable changes to the setting of an historic asset that significantly modify the setting and affect the character of the historic asset
<b>Minor</b>	Slight but noticeable changes to the setting of an historic asset
<b>Negligible</b>	Very minor changes to setting of an historic asset that hardly affect it
<b>No change</b>	No change to the setting of an historic asset

Table 1 Criteria used to assess the magnitude of impact of proposed development on setting

The viewpoint impact assessment undertaken as part of stage three requires that field visits are undertaken and a photographic record made. On site observations will be recorded on GAT pro-forma sheets, digital photographs are to be taken in RAW format using a digital SLR set to maximum resolution (Nikon D3100; resolution: 4,608 × 3,072 [14.2 effective megapixels]). A photographic metadata table will be completed (Appendix I). Photographic images will be archived in TIFF format; the archive numbering system will start at G2564\_001.

#### **3.1.4 Stage 4: If necessary, consider options to mitigate or improve the potential impact of a proposed change or development on that significance**

Mitigation is defined as actions taken to avoid or minimise any harm to the significance of the historic asset and its setting, should a negative impact of significant magnitude have been identified at the conclusion of Stage 3. The measures need to be within the planning application boundary being considered and could include relocation of the development or elements therein or the introduction of screening. The impact of the proposed development is then reassessed in the light of mitigation recommendations.

## **4 RESULTS**

### **4.1 Stage 1: Identify the Historic Assets**

#### **4.1.1 The location, size and scale of the proposed development**

The proposed development consists of an unloading and loading facility and weighbridge adjacent to the railway line, 241m to the south east of the Glanllynau Waste Facility, Chwilog (SH SH4566537660); a new waste processing and storage area in a field to the south west of the Waste Facility; and an associated access track that runs north from the north western corner of the loading and unloading facility, and then generally westwards towards the processing and storage area (Figure 01; Figure 02). The unloading and loading area is to be constructed within a quarried out area; the north south aligned section of the access track will run along an existing trackway and its western end lies within the existing waste facility; the rest of the development will take place on farmland currently under pasture. More detail regarding the individual elements of the scheme are included below. All dimensions are based on an outline drawing of the proposed works supplied by Ceri Environmental Consulting Ltd (Figure 02).

#### **Unloading and loading facility**

The unloading and loading facility is approximately 87 m long and 66m wide, and covers an area of 0.44 ha. It is to be constructed within a quarried out area, the level of which will be raised to that of the railway sleepers to create an area of hardstanding. A weighbridge and a rectangular concrete pad are to be constructed in the south western corner of the area, on the northern side of the railway line. The facility will be bounded by the existing trackway and proposed access road to the west, the current field boundary and railway line to the south, and will remain unfenced to the north and east. The concrete pad, measuring 5m by 5m, will be used to support a Leihbrr LH50 low noise mobile crane to enable the transfer of waste materials to and from the railway network. The crane will have a maximum operating height of between 15 -19.5m when deployed and fully extended. The crane can be supplied in a grass green colour to minimise its visual impact. It will not be deployed permanently and will be stored in the new processing and storage area in periods of disuse. The northwestern corner of the proposed loading and unloading facility lies approximately 421m to the south east of the Tomen Fawr Scheduled Monument.

#### **Waste processing and storage area**

The waste processing and storage area covers 1.11 ha and incorporates a sub rectangular area approximately 137m wide and 108m with a spur to the north to provide vehicular

access via an existing roadway. It is located to the south west of the waste facility, on the eastern side of the field to the south east of the Tomen Fawr Scheduled Monument. It will be bounded to the south by the existing field boundary, to the west by a new screening bund, and to the north and east by the existing waste facility. The area will be constructed of hardcore stone at the level of the current ground surface. In addition to providing a storage area for the crane, the area will be used for the storage of materials delivered by rail prior to processing and their subsequent transport off site either by road or over the rail network. It is envisaged that the tree planted bund along the western side of the processing and storage area will screen views from the west. The waste processing and storage area is the closest part of the proposed development to Tomen Fawr. At its closest point, the area lies 89m to the east of the Scheduled Monument.

### **Access road**

The access road will run from the eastern side of the waste processing and storage area, along a trackway within the existing waste facility for a distance of 60m, before emerging into a field to the south east of the waste facility. From here it runs south east for approximately 138m to join an existing north south aligned trackway. It then runs southwards along the existing track for approximately 89m before it reaches the north western corner of the unloading and loading facility. The outline plan suggests it will be approximately 4m wide with an area at its southern end widened to 15m to provide a turning area for vehicles. It will cover an area of approximately 0.25 ha. The trackway is to be constructed at the level of the current ground surface using hardcore stone. At its closest point, the access track lies approximately 205m east of the Tomen Fawr Scheduled Monument.

#### **4.1.2 The Tomen Fawr Scheduled Monument CN031**

The scope of this assessment is limited to the impact of the proposed development at Glanllynau on the setting of the Tomen Fawr Scheduled Monument CN031 (Gwynedd HER PRN 1329; RCAHMW NPRN 95294; SH4543037680), as specified by Cadw in a letter to Gwynedd Planning Service dated 15 March 2017 (ref Y17/000175). Desk based viewshed analyses performed as part of this assessment considered the impact of the proposed development on the setting of all 10 of the Scheduled Monuments within a 5km radius of the proposed development. The analyses confirm that due to distance and topography, Tomen Fawr is the only Scheduled Monument potentially impacted.

The Tomen Fawr Scheduled monument is a medieval ringwork, a defensive structure consisting of a circular ditch and bank enclosing an area approximately 12m in diameter (Plate 01; Plate 02). Much of the bank and the northern part of the interior is overgrown with gorse, broom and bramble. The top of the bank is between 2m and 4m above the interior, although this diminishes to 0.5 m on the southern edge of the bank where part of it may have collapsed outward.

It lies in fields on the edge of a ridge of clay drift, 375 m from the sea and approximately 100m to the west of the existing Glanllynau Waste Facility. The scheduled area covers 1ha, is approximately 184m long and 76m wide and consists of a circular area around the ringwork itself and a sub rectangular area to the south that extends into the marshy ground downslope that encloses earthworks associated with the ringwork. The southern extent of the scheduled area lies within Glanllynau a Glannau Pen-ychain i Gricieth SSSI (SSSI ID 326).

#### **The visibility of the proposed works from the Tomen Fawr Scheduled Monument**

The three elements of the proposed works lie in fields to the east and south east of the monument at distances of between 89m and 421m (Figure 01). A multipoint digital terrain model viewshed was constructed to simulate potential views from 16 points distributed around the top of the bank of the monument (observer height of 1.8m). The viewshed model does not account for the obstruction of views by vegetation, buildings or the proposed screening bund to the west of the waste processing and storage area, and as such provides a 'worst case scenario' model.

The viewshed demonstrates that the majority of the footprint of the proposed works will be potentially visible from all of the highest parts of the ringwork (Figure 03). The parts of the works that will not be visible are the spur linking the northern part of the proposed waste

processing and storage area and the existing access road, and most of the length of the parts of the access track that lie within the existing waste facility and the field to its south east.

A further multipoint viewshed model was constructed for 18 points distributed across the slope and lower ground in the southern part of the scheduled area. It demonstrates that the visibility of the proposed scheme is greatly reduced from within this area. Only the western side of the waste processing and storage area is visible from all 18 assessed points. The eastern and southern fringes of the unloading and loading facility and the extreme western end of the access track will be visible from between 1 and 4 of the 18 assessment points.

## **4.2 Stage 2: Define and analyse the setting**

### **4.2.1 The current surroundings of the Tomen Fawr Scheduled Monument**

Tomen Fawr Ringwork lies in agricultural fields on the edge of a floodplain in a low lying coastal farming landscape. The general settlement pattern of the wider landscape is of scattered farmhouses and cottages dating from the 18th century and later, a pattern that remains largely unaltered from the mid-19<sup>th</sup> century (Roberts 2007, 10).

To the immediate south and south west of the monument lie salt marsh and pools which form part of the Glanllynau a Glannau Pen-ychain i Gricieth SSSI. An embankment for the Cambrian Railway PRN68477, built in 1867, runs east – west approximately 260m south of the monument and separates the marshy ground from the sea (Figure 05).

Around 140m to the north, the modern A497 runs east – west along the route of a road shown on John Evans' 1795 map of North Wales, a route which was turnpiked in 1803 but is thought to have been in use since at least the 12th century (Roberts 2007, 10). An old tollgate cottage PRN11368 NPRN16627 is located 174m to the north west of the scheduled area, on the northern side of the A497 just to the west of Pen-y-groes (Figure 05). With no public access to the monument, the view from the A497 in this area is probably the most accessible to the general public.

100m to the east of the monument lies the Glanllynau Waste Facility, a relatively recent, 21<sup>st</sup> century diversification into industrial activity at the site of the Glanllynau farm PRN 68506 (Figure 05). A modern access road, built following the improvements to the A497 in the early 21<sup>st</sup> century, runs northwards from the west side of the Waste Facility site to provide access from it to the main road (Davidson, Smith and Roberts 2007). Post medieval farmbuildings still stand to the east of the Waste Facility and a farm at Glanllynau is recorded in documentary sources and historic maps from the 18<sup>th</sup> century onwards (Roberts 2007, 9).

The area to the west includes the post-medieval Afonwen Farm PRN68502 (Figure 05), 830m distant, whilst beyond that, at a distance of 2km across the fields and the Afon Wen is the 20th century Hafan y Môr Holiday Park (PRN31505; NPRN401382), the former naval training camp HMS Glendower PRN7248 (Figure 05).

In addition to the works to the A497 and expansion of activity Glanllynau, other recent development in proximity to the Scheduled Monument includes warehouses, access roads

and parking areas for food processing and distribution units at Parc Amaeth. The Parc was constructed in the early 21st Century on the northern side of the A497, 320m to the northwest of the scheduled area.

The ringwork element of the scheduled monument commands good views southwards across the sea marsh and railway into Cardigan bay and westwards across the fields and coastal plain towards Hafan y Môr (Figure 04). It's location on the south west facing slope of a scarp means views northwards towards the higher ground inland and eastwards along the coastal plain are more restricted. The location of only one Scheduled Monument within a 5km radius, the medieval Criccieth Castle CN015, is just visible to the east of the ringwork, though at a distance of almost 5km its visibility is limited.

The general impression of the setting of Tomen Fawr is that of an overgrown monument set in a pleasant rural coastal landscape that has been encroached upon by small scale agri-industrial development in its immediate vicinity to the east, and larger scale infrastructure works such as the nineteenth century railway and the modern A497 to the south and north respectively.

#### **4.2.2 Our present understanding and appreciation of the Tomen Fawr Scheduled Monument**

The Tomen Fawr Scheduled Monument is classified as a ringwork, a medieval defensive fortification first introduced to Britain by the Normans in the 11th century AD. These sites are rare in north west Wales and only three sites classified as medieval ringworks are known in Gwynedd and Anglesey: Tomen Fawr; Castell Crwn, Llanrhwydrys, Anglesey, PRN3615, Scheduled Monument AN029; and Penucha'r-Ilan at Llanfor near Bala, PRN321, Scheduled Monument ME042.

As a defensive structure, Tomen Fawr was sited strategically and its topographic location is important for our understanding the sites function and the choice of its location. It lies on a scarp slope, taking advantage of the natural slope to form the southern part of the defences. It is situated on the coast between the mouths of the Afon Wen to the west and the Afon Dwyfor to the east. With good views out to sea, it is perfectly located to monitor or control river traffic at the points where each meets Cardigan Bay. The ringwork is also perfectly situated to control and monitor traffic along the east – west running route way 140m to the north, which, as was mentioned above, is thought to have been in existence since at least the middle of the twelfth century.

The Tomen Fawr ringwork is part of a group of 4 medieval timber and earth fortifications on the Llŷn peninsula that may have been constructed during the historically documented Norman incursions into the Llŷn and Gwynedd in the late 11<sup>th</sup> century. The Llŷn group also includes the mottes at Abersoch PRN1239 and Nefyn PRN1535, and the Ty Newydd Motte and Bailey Castle at Llannor PRN1532, Scheduled Monument CN096. The monument has not been subject to modern archaeological excavation however, and the precise date of its construction, or indeed whether it was built by invading Normans or the local Welsh, is uncertain (Davidson 2003, 3).

Whoever it was built by, its function changed from that of a purely military defensive structure during its period of use. Tomen Fawr went on to be used by the Welsh Princes and eventually served as the administrative centre of the medieval township of Ffriddlwyd PRN7351 (Davidson, Smith and Roberts 2007, 7). In the late 12th or early 13th century the township was given to the Cistercian Abbey of Aberconwy and became a grange. At this point any nearby settlement would most likely have been cleared and the ringwork abandoned (Gresham cited in Kenney 2013, 25).

No other historic associations or significant factors such as artistic depictions have been identified.

#### **4.2.3 What if anything survives of its historic surroundings?**

Very little of the medieval surroundings of Tomen Fawr survive. There are no earthworks suggestive of an associated medieval settlement nearby. The closest (possible) medieval settlement earthwork remains are located at Botach, Broom hall PRN1825, 4.34km to the west of the site. Archaeological evidence for nearby industrial activity contemporary with the use of the ringwork was however discovered in 2011 during the replacement of a gas pipeline (Kenney 2013). A medieval smithing site, dated to the late 12th or early 13th century was identified in the field, just south of the A497 and 169m to the north of the ringwork (Figure 05). It seems likely that is associated with the ringwork and its siting in proximity to the medieval roadway is intentional (Kenney 2013, 25). Though modernised, the route of the A497 at least, would have been a familiar element in the landscape during the medieval period. The identification of the smithing site also raises the possibility that more buried archaeological evidence for contemporary settlement survives in the field between the metalworking site and the monument.

The ringwork would have been built within a medieval coastal agricultural landscape. Though as an agricultural landscape, the current fields that surround the site may have an air of familiarity to the medieval occupants of the ringwork, the pattern of enclosed fields around Tomen Fawr largely dates from the 19th century, as shown on the First Edition Ordnance Survey map (Figure 06). Earlier maps such as the 1839 Llanystumdwy Parish Tithe Map (Figure 07) and the c.1815 Glanllynau Farm Glynllifon Estate Map (Figure 08) show that the amalgamation of smaller more irregular fields into the current pattern of larger more regular enclosures in the vicinity of the monument was an on-going process throughout the 19th century. The nearest surviving medieval field systems are recorded 2.58km to north east where curving field boundaries to the north and east of Llanystumdwy PRN34121 may preserve the layout of medieval strip fields (Figure 05).

The landscape of sea marsh and pools with causeways of slightly dryer ground that lie to the south of the monument may have been familiar to those who built and used the ringwork. They were certainly present at the beginning of the 19th century when the c.1815 Glanllynau Farm Glynllifon Estate Map (Figure 08) and 1839 Tithe Map (Figure 07) were produced. They were certainly present at the beginning of the 19th century when the c.1815 Glynllifon Estate Map and 1839 Tithe Map were produced. Both maps show field boundaries extending down to the present day coastline formed by the later 1867 railway embankment, and the Tithe Apportionment records pools and fieldnames indicative of flooded or marshy ground.

Other archaeological or architectural evidence for medieval activity nearby is scarce. The nearest medieval church is located 3.54km to the north west, Llanarmon Parish Church,

Llanystumdwy PRN6939 (Figure 05). A church at the site here is recorded in 1254 though it is most likely an earlier foundation. A medieval mill PRN68503 PRN29705 is known from documentary sources to have been located on the west bank of the Afon Wen, around 1.60km to the west of the site (Figure 05). Its exact location is however unknown. The stone built castle at Criccieth CN015 5km to the east was built by Llywelyn Fawr in 1239, possibly slightly earlier, and seems to be unlikely to contemporary with the use of the ringwork as an administrative centre of the Welsh Princes.

It is possible that nearby archaeological features from earlier periods may have been familiar sight for the medieval occupants of the ringwork. Prehistoric features including a sub circular ditch, PRN19659, around 28m in diameter, were identified 475m to the west of the ring work during the A497 road improvements in 2004 (Figure 05). The ditch and cremations were most likely once covered by a barrow which would have formed an imposing sight in the landscape. The barrow was most likely ploughed out as a result of post medieval farming activity (Davidson, Smith and Roberts 2007, 14).

#### 4.2.4 Significance

Conservation Principles (Cadw 2011, 10) identifies four component values which contribute to the significance of an historic asset: its **evidential** value; its **historical** value; its **aesthetic** value, and its **communal** value.

As a Scheduled Monument, the significance of Tomen Fawr is rated as high. The monument is of national significance for its **evidential** value as a rare type of archaeological site that has significant potential to enhance our knowledge and understanding of medieval settlement and defence. It is of high **historical** value as it is linked to nationally important historic events such as the Norman invasion of North Wales and the rule of the Welsh Princes. Tomen Fawr's **aesthetic** value derives from its relatively isolated location in a coastal agricultural landscape. Its **communal** value is high because of its historical links to the Welsh Princes, their importance in Welsh culture and the significant role they played in shaping Welsh national identity. The primary contribution of the setting of the Tomen Fawr Scheduled Monument to its significance is **aesthetic**.

#### 4.2.5 Viewpoints

The viewpoints listed in Table 2 have been identified as those from which the impact of the proposed development on the setting of the Tomen Mawr Scheduled monument should be assessed.

Viewpoint		Reason
1	Views southwards from the ringwork across the salt marsh towards Cardigan Bay.	Strategically designed view
2	View south west from the ringwork towards the mouth of the Afon Wen and east towards the mouth of the Afon Dwyfor	Strategically designed view
3	View north west from the ringwork towards both the route of the 12 <sup>th</sup> century routeway, now the modern A497, and the location of the smithing site.	Strategically designed view / historic viewpoint
4	View south east over the smithing site from the side of the modern A497 towards the monument	Historic viewpoint / current visitor viewpoint
5	Views northwards from the coastline towards the scheduled monument (access permitting)	Historic viewpoint / current visitor viewpoint
6	View east from the ringwork towards the current Glanllynau Waste Facility.	Potentially impacted modern view
7	View east and south east from the monument towards the proposed works.	Potentially impacted modern view
8	Views east and south east from the lower, southern part of the scheduled area towards the proposed works.	Potentially impacted modern view
9	View east from the ringwork towards Criccieth castle	Modern visitor viewpoint towards a visible historic landmark.

Table 2 Assessment viewpoints

### **4.3 Stage 3: Evaluate the potential impact of a proposed change or development on that significance.**

#### **4.3.1 Field assessment**

Field visits, undertaken in December 2018, were conducted in order to assess the impact of the proposed development on the setting of the Tomen Fawr Scheduled Monument, in particular the impact on the key viewpoints identified in Table 2 (Figure 09). Twenty two photographs of views to, from and across the monument were taken (Appendix I).

The field assessment largely confirmed the findings of the viewshed models. In practice, the dense gorse bushes on the top of the monument restrict the visibility of the surrounding landscape in all directions, however it was possible to find points on the ringwork where each of the key views from the monument could be assessed. The viewpoint assessments are detailed below:

#### **Viewpoint 1: Views southwards from the ringwork across the salt marsh towards Cardigan Bay (Plate 03)**

The ringwork may have been strategically located to have good views out to sea. The proposed development will not interfere with these southwards views which will remain unobstructed.

#### **Viewpoint 2: View south west from the ringwork towards the mouth of the Afon Wen and east towards the mouth of the Afon Dwyfor (Plate 04; Plate 05)**

The ringwork may have been strategically sited to observe and control river traffic between Cardigan Bay from the Afon Wen to the south west and the Afon Dwyfor to the south east. The views to the afon Wen remain unobstructed (Plate 04). The mouth of the Afon Dwyfor is not visible from the monument and is obscured by topography to the east of the existing waste facility (Plate 05), though the part of Cardigan Bay that it empties into can be seen. The north western corner of the proposed waste processing and storage area will not be visible in this view due to the local topography,

#### **Viewpoint 3: View north west from the ringwork towards both the route of the 12th century routeway, now the modern A497, and the location of the smiting site (Plate 06).**

The views to the north of the monument represent a strategically designed view towards the medieval routeway and a historic view towards the medieval smiting site (Plate 06). The

proposed development will take place on land to the east and south east of the monument and will not impact on these views to the north west.

**Viewpoint 4: View south east over the smithing site from the side of the modern A497 towards the monument (Plate 07).**

The view south east wards to the ringwork from the side of the A497 represents historical views from the medieval roadway and the smithing site, and is also the most accessible modern visitor viewpoint of the monument. The monument, overgrown with gorse, is clearly visible on the horizon (Plate 07). The location of the proposed development, situated on lower ground to the south east of the monument, does not form part of the view.

**Viewpoint 5: Views northwards from the coastline towards the scheduled monument (Plate 08).**

The views from the coastline towards the scheduled monument are both historic views and modern visitor viewpoints. Only the part of the coast to the south east of the monument was accessible during the field visit. The waste processing and storage area will be clearly visible in north west facing views towards the monument from the assessment point. The proposed development will not obstruct views however, and will appear as a westward expansion of existing activity at the waste processing facility. The coastal area to the south east will also provide the clearest views for modern visitors of the proposed loading and unloading area (Plate 09). The views along the railway line from the assessment point are not historic views however and have no impact on the setting of the monument.

**Viewpoint 6: View east from the ringwork towards the current Glanllynau Waste Facility (Plate 10).**

The view eastwards from the monument towards the current waste facility represents a modern view. The buildings of Glanllynau farm can be seen just to north of the clearly visible infrastructure and stockpiles from the modern agri-industrial waste facility. The local topography means that the northern spur of the proposed waste transport and storage area is screened from this view and will not impact or obstruct it.

**Viewpoint 7: Views east and south east from the monument towards the proposed works (Plate 10, Plate 11).**

The view eastwards towards the northern spur of the works has already been discussed above and will not be impacted. The current view of the rural coastal landscape to the south east will clearly be negatively impacted by the proposed waste processing and storage area,

which, with the exception of the northern spur that links it to the existing roadway, will be visible in its entirety. The close proximity and extent of the processing and storage area in the adjacent field to the south east means that the middle ground of views south eastwards will be dominated by this part of the development.

The proposed unloading and loading area will be just visible in the background of south eastwards views from the ringwork, though its distance and the fact that it is to be located within a disused quarry means that its impact on the views here will be less apparent. The provision of the proposed access track will not impact views south eastwards from the monument.

**Viewpoint 8: Views east and south east from the lower, southern part of the scheduled area towards the proposed works (Plate 12, Plate 13).**

The lower elevation of the southern part of the scheduled area means that views eastwards and south eastwards are more restricted. The local topography obscures views to the current waste facility to the east, and less of the proposed development is visible to the south east than it is from the ringwork itself. Only the western portion of the proposed processing and storage area will be visible, however the proximity of the proposed development, visible just over the hedgerow in the adjacent field, means that it will dominate the rural south easterly views from here.

**Viewpoint 9: View east from the ringwork towards Criccieth castle (Plate 14)**

The view eastwards from the ringwork towards Criccieth Castle is a modern visitor viewpoint towards a visible historic landmark. The castle, 5km distant, is visible on the horizon above the roof tops of the current waste facility. Views to the castle will not be obstructed or interfered with by the proposed development.

#### **4.3.2 Assessment of the impact of the proposed development**

The visual impact of the proposed development is restricted to its negative impact on south easterly views from the monument and coastal views towards the monument from the south east. The impacted views are of a largely coastal rural landscape which also includes views of modern agri-industrial infrastructure and activities associated with the existing Glanllynau Waste Facility. The negative visual impacts on south easterly views from the monument, though only a small proportion of the total and none of which are historically important, are increased in magnitude due to the close proximity of the proposed waste processing and storage area. The negative impact on these views from the monument will result in noticeable changes to the setting of the monument, however they will not significantly reduce our ability to appreciate and understand it. Coastal views towards the monument from the south east will be less affected and the proposed development will appear as an expansion of existing industrial land use in proximity to the monument.

The key characteristics of the current setting of the monument, located as it is within a coastal rural landscape with dispersed settlement and evidence for modern, small scale industrial activity will remain the same, and the proposed development can be absorbed into the existing landscape with little impact on the landscape's key characteristics.

Given the proximity of the monument to the existing waste facility and the scale of the proposed development, the proposed development will not negatively affect non-visual elements of the setting and character and of the monument such as remoteness or sense of place.

Further non-visual impacts of the proposed development, such as the introduction of noises or smells are likely to be minimal. It is not envisaged that the proposed development will significantly increase vehicle movement across the site compared to that resulting from activity at the existing waste facility. The low noise crane, operating over 400m to the south east is unlikely to contribute to existing ambient noise levels experienced at the monument, especially given the proximity of the modern A497, 140m to the north.

The cumulative effect of the expansion of nearby industrial activity in proximity to Tomen Fawr is noted, and the expansion and encroachment of industrial activity on the once exclusively rural setting of the monument is acknowledged. However it is not felt that the cumulative impact of the changes in land use represent a major impact on the character of Tomen Fawr or our ability to understand, appreciate and experience the monument.

Overall, the impact of the proposed development on the setting of Tomen Fawr has been assessed to be **negative**, and the magnitude of this impact **minor**, as the proposed development will result in slight but noticeable changes to the setting of the monument.

## **4.4 Stage 4: Consider options to mitigate the impact of the proposed development**

### **4.4.1 Mitigation measures**

The proposed development plan includes mitigatory measures. The crane will be a low noise version, minimising the potential for non-visual impacts on visitors to the monument. It is also to be painted green in order to help it blend into the surrounding landscape, reducing its visibility. Anticipating the negative impact of the development on views from the monument, a screening bund has been proposed, running along the western side of the proposed waste processing and storage area (Figure 01). If planted with locally common species of tree, this will provide an effective screen as the trees mature in the medium to long term. It also has the additional benefit of screening the existing waste facility for visitors to the monument.

Once matured, the trees on the screening bund may obscure east facing views from the monument over the existing waste facility towards Criccieth Castle. This view is not a historic viewpoint however, instead it is a modern visitor viewpoint towards a visible historic landmark. Despite the possible negative consequence, it is felt that the benefit of the screening bund and its removal from view of existing and proposed industrial activity outweighs any negative impacts on distant views that it may introduce.

### **4.4.2 Assessment of the impact of the proposed development following mitigation**

Following the above mitigation measures the impact of the proposed development on the setting of Tomen Fawr has been re-assessed. Though the proposed mitigation will undoubtedly reduce the visual impact of the proposed development, the visual changes introduced by the screening bund in close proximity to the monument will still result in noticeable changes to the immediate setting of the monument. Whilst the planting will be in keeping with the character of the surrounding landscape, and effectively screen the existing and proposed development, the trees will still interrupt the existing coastal rural south easterly views. The impact of the proposed development following mitigation on the setting of Tomen Fawr has been assessed to be **negative**, and the magnitude of this impact, though reduced, once again assessed as **minor**. The magnitude of impact following mitigation is assessed as being at the very bottom of the minor category as the changes will be slight but noticeable and though the impact is reduced, its magnitude is not low enough to qualify as negligible.

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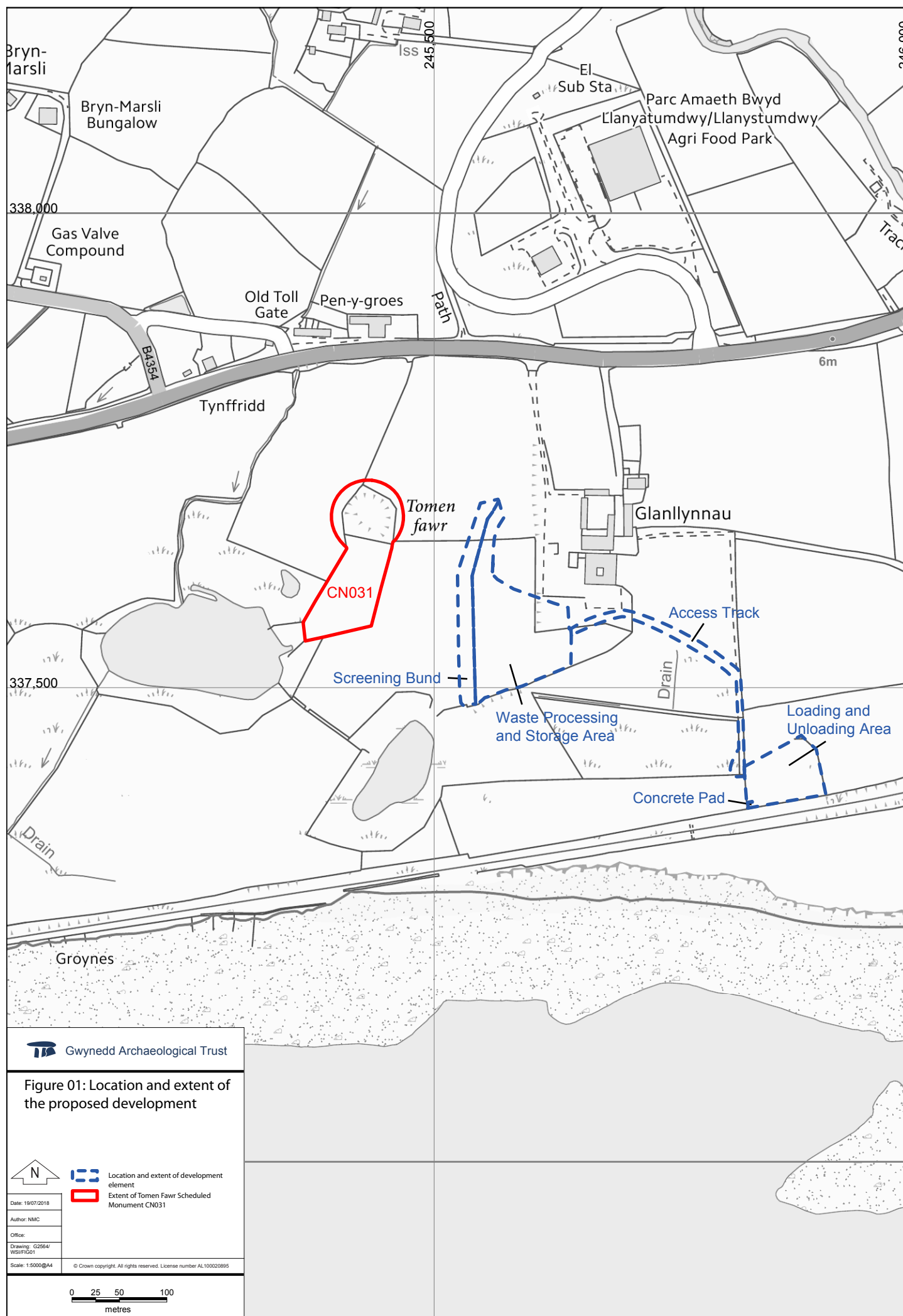
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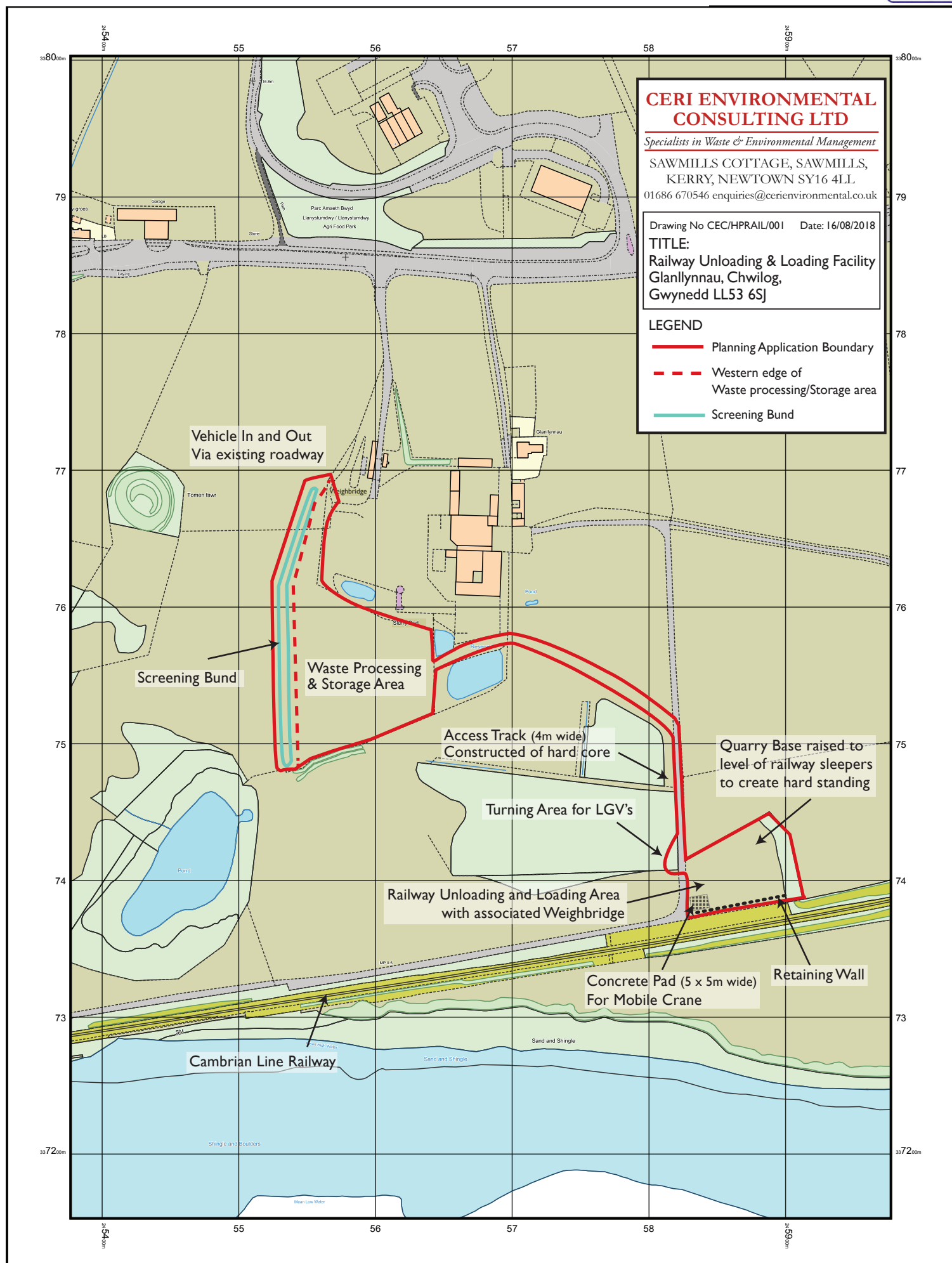
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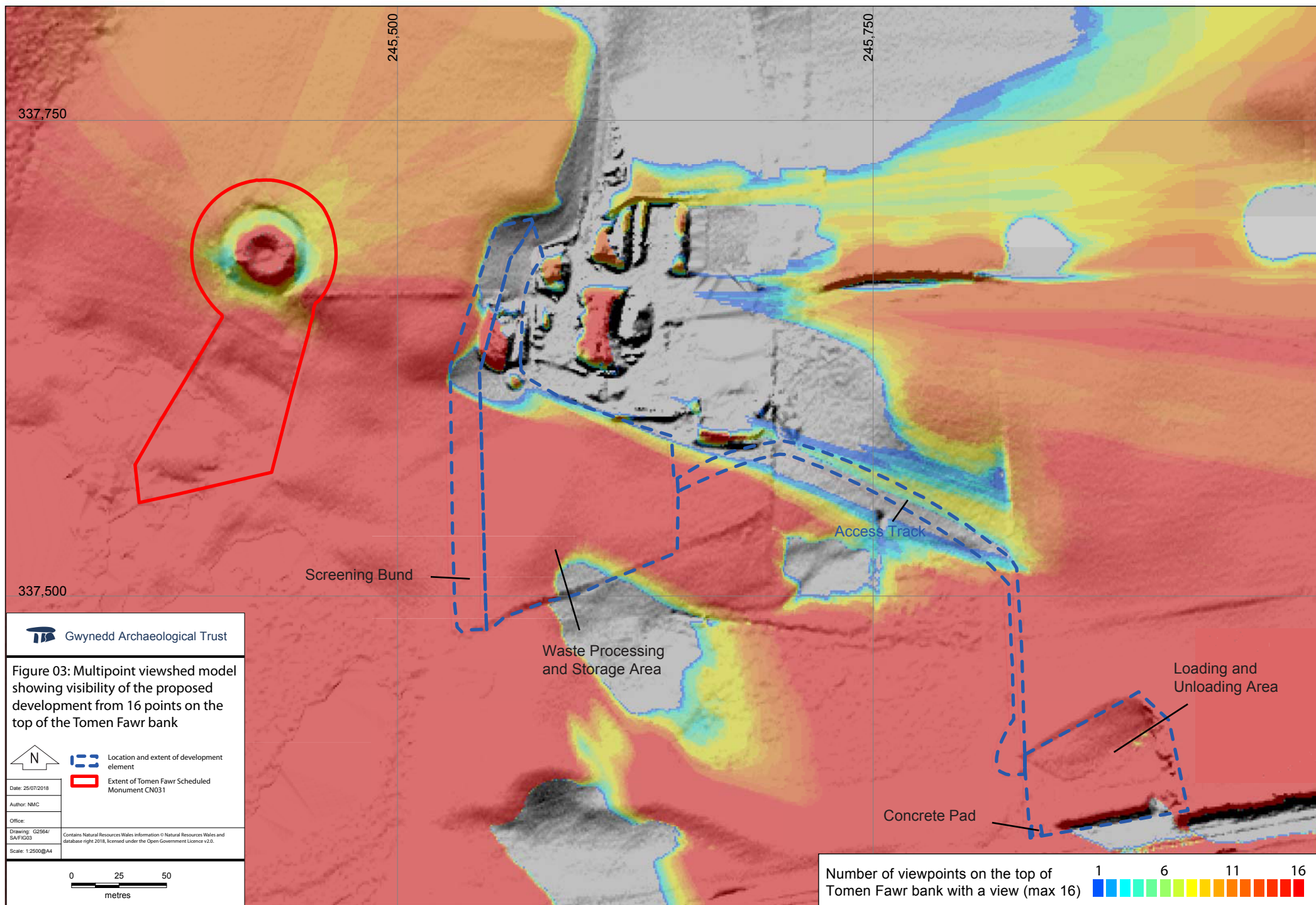
Caernarvonshire County Series 25" ordnance survey XXXIII.14, XXXIII.15, XLI.2, XLI.3 (1889, 1900, 1917)

### **Gwynedd Archives**

XD2/8356   Glanllynau   Farm,   from   Glynllifon   Estate   Map   Book   c.1815







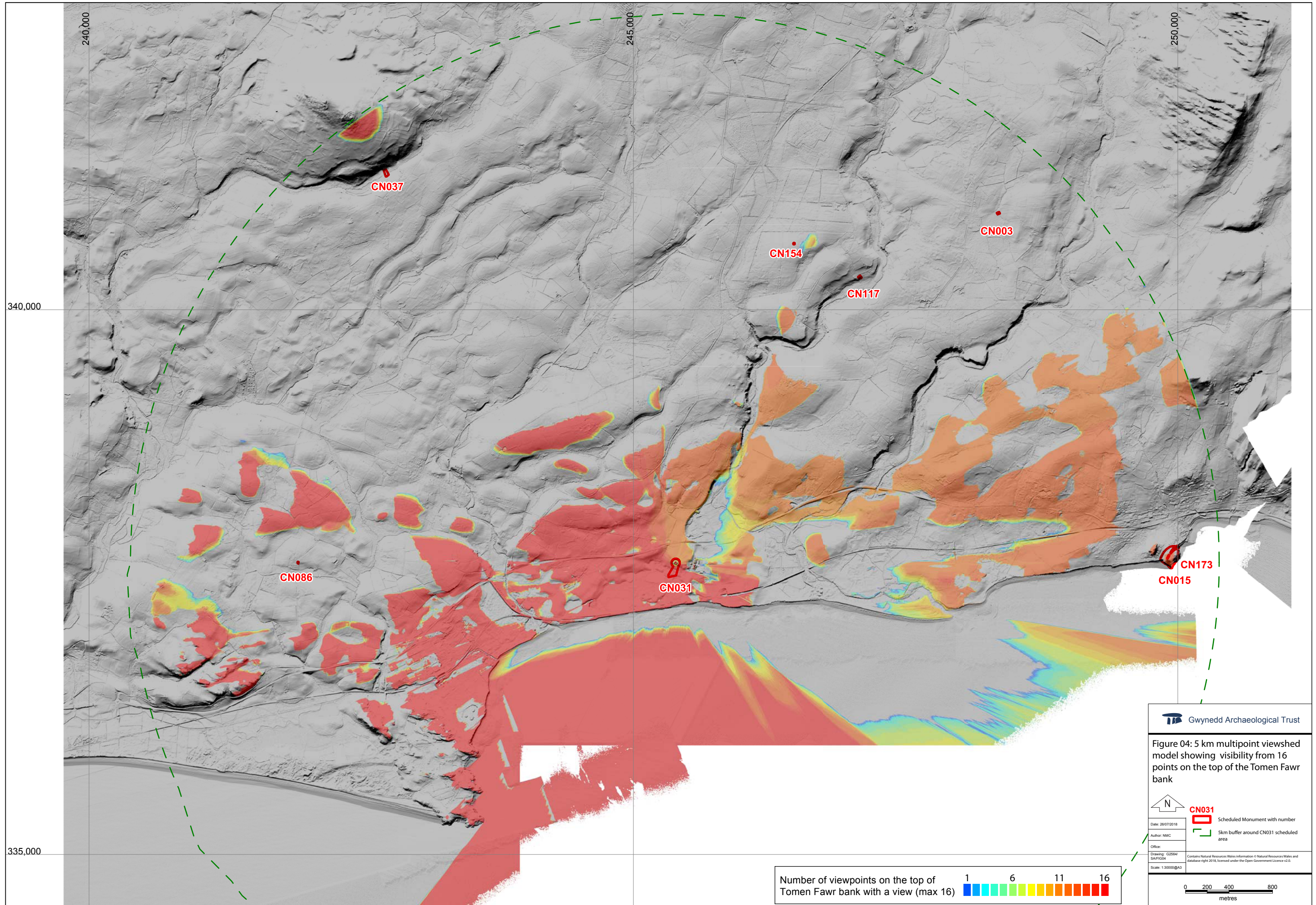




Figure 05: HER sites discussed in the text




Date: 01/07/2018

Author: NMC

Office:

Drawing: G2564/SA  
FIG05

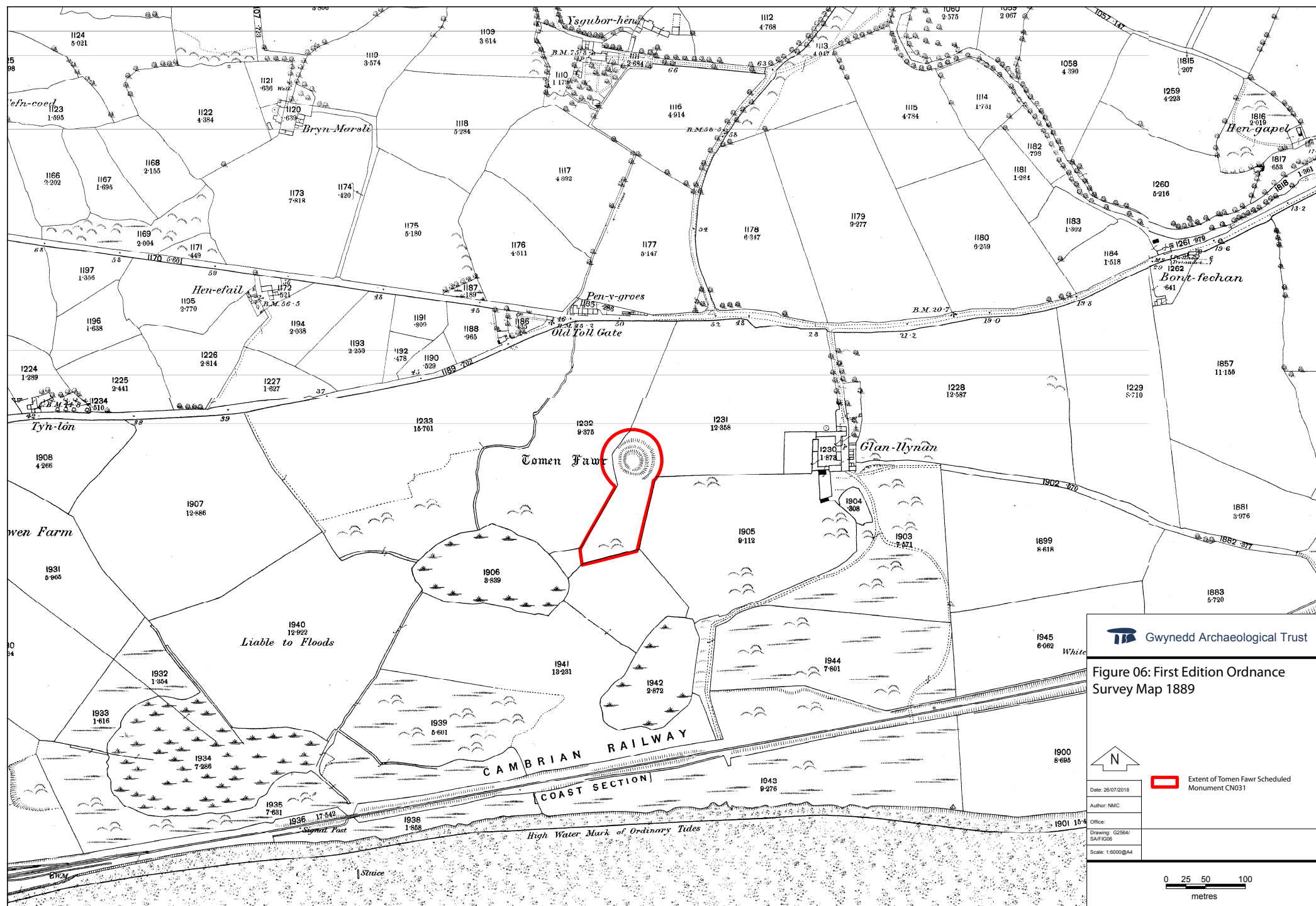
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 68,477 Gwynedd HER site mentioned in the text with PRN

 Extent of Tomen Fawr Scheduled Monument CN031

0 250 500  
metres

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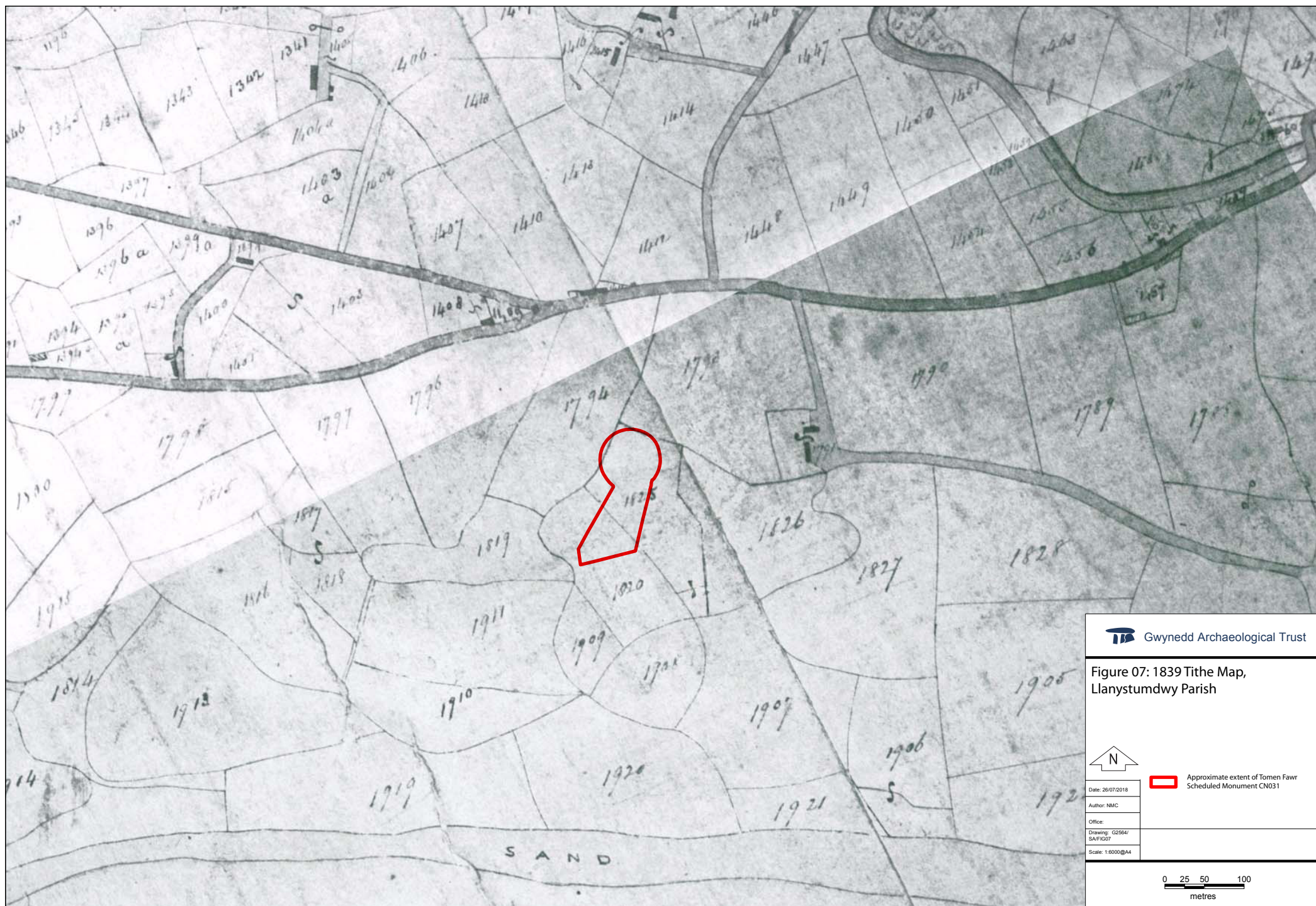


Figure 07: 1839 Tithe Map,  
Llanystumdwy Parish



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Author: NMC

Office:

Drawing: G2564/

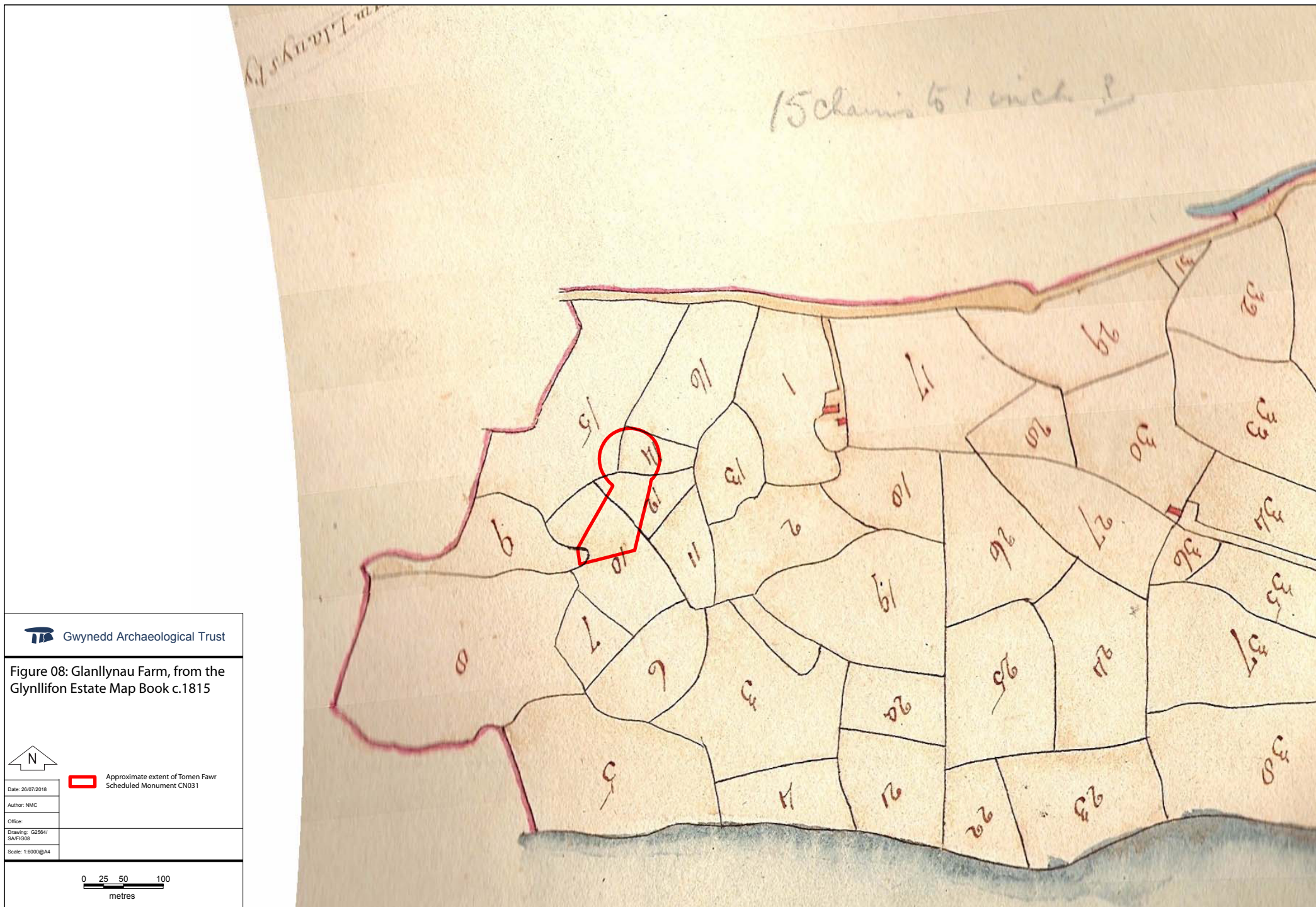
SA/FIG07

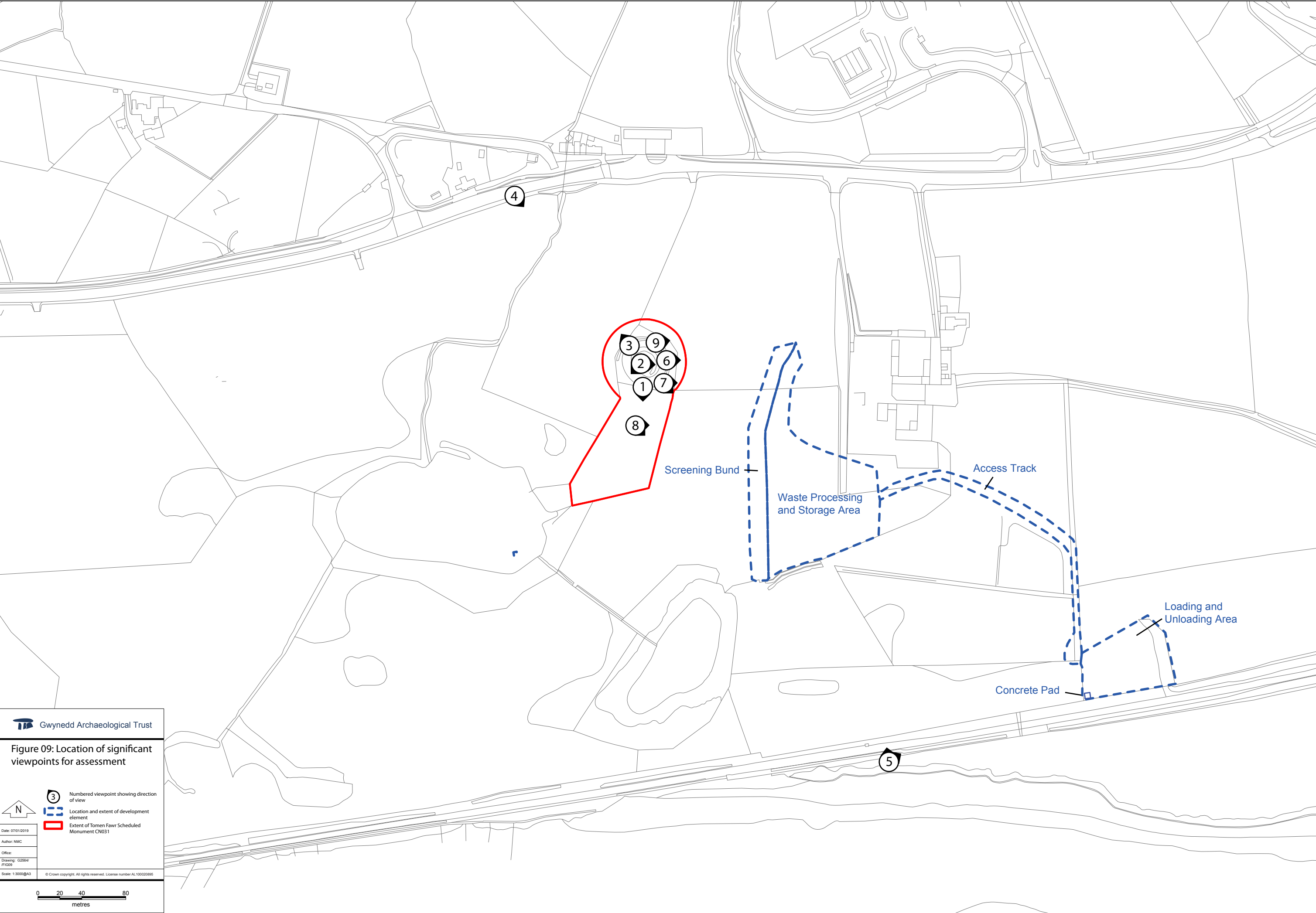
Scale: 1:6000@A4



Approximate extent of Tomen Fawr  
Scheduled Monument CN031

0 25 50 100  
metres







**Plate 01: View of Tomen Fawr from the north**  
(scale 1x1m; archive reference: G2564\_020 and G2564\_021).



**Plate 02: View of Tomen Fawr from the south** (scale 1x1m; archive reference: G2564\_013).



**Plate 03: South-east facing view of the salt marsh and Cardigan Bay from the southern edge of Tomen Fawr (archive reference: G2564\_006).**



**Plate 04: South-west facing view from Tomen Fawr towards the mouth of the Afon Wen (beyond the salt marsh) (archive reference: G2564\_007).**



Plate 05: East facing view from the south east corner of Tomen Fawr toward the current waste processing facility and Criccieth Castle, arrow shows direction of the mouth of the Afon Dwyfor (not visible) (archive reference: G2564\_009).



Plate 06: North west facing view from north west corner of Tomen Fawr toward the smithing site and the A497 (archive reference: G2564\_010).



**Plate 07: South east facing view of Tomen Fawr from the A497 and smithing site (archive reference: G2564\_022).**



**Plate 08: North west facing coastal view of the existing waste facility and Tomen Fawr (arrowed), shaded area is the approximate location of the proposed waste processing and storage area (archive reference: G2564\_014).**



**Plate 09: East facing view along railway line, shaded area is the approximate location of the proposed loading and unloading area, concrete pad and access track (archive reference: G2564\_015).**



**Plate 10: East facing view from the top of Tomen Fawr towards the existing waste facility (archive reference: G2564\_003).**



**Plate 11: South-east facing view from Tomen Fawr towards the proposed waste processing and storage area (middle ground, approximate extent shaded) and loading and unloading area (background left, approximate extent shaded) (archive reference: G2564\_005).**



**Plate 12: South east facing view toward the northern part of the proposed waste processing and storage area (approximate extent shaded) from the lower (southern) part of the scheduled area (archive reference: G2564\_011).**



Plate 13: South east facing view toward the southern part of the proposed waste processing and storage area (approximate extent shaded) from the lower (southern) part of the scheduled area (archive reference: G2564\_012).



Plate 14: East facing view from the south east corner of Tomen Fawr toward the current waste processing facility and Criccieth Castle (arrowed) (archive reference: G2564\_009).

## **APPENDIX I**

**Gwynedd Archaeological Trust approved written scheme of  
investigation, July 2018**

TOMEN FAWR, CHWILOG, GWYNEDD  
(G2564)

Historic Environment Record Event Primary Reference  
Number: 45279



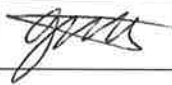
PROJECT DESIGN FOR ARCHAEOLOGICAL IMPACT  
ASSESSMENT

*Prepared for*

*MR HARRI PARRY*

*July 2018*

Ymddiriedolaeth Archaeolegol Gwynedd  
Gwynedd Archaeological Trust

Approvals Table				
	Role	Printed Name	Signature	Date
Originated by	Document Author	JOHN ROBERTS		19/07/18
Reviewed by	Document Reviewer	NIEL McQUINNEN		18/07/18
Approved by	Principal Archaeologist	JOHN ROBERTS		19/07/18

Revision History			
Rev No.	Summary of Changes	Ref Section	Purpose of Issue

All GAT staff should sign their copy to confirm the project specification is read and understood and retain a copy of the specification for the duration of their involvement with the project. On completion, the specification should be retained with the project archive:

Name

Signature

Date

# **TOMEN FAWR, CHWILOG, GWYNEDD (G2564)**

## **PROJECT DESIGN FOR ARCHAEOLOGICAL IMPACT ASSESSMENT**

Prepared for *Mr Harri Parry*, July 2018

Historic Environment Record Primary Reference Number: 45274

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# 1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by *Mr Harri Parry* to prepare a written scheme of investigation (WSI) for an Archaeological Impact Assessment in advance of the application for planning permission for a proposed loading and unloading facility, a new waste transfer area and an associated access road, at Glanllynau Farm, Chwilog, Gwynedd (NGR SH45543734; Figure 01). The assessment will form part of a pre-planning consultation with Gwynedd Council and is being undertaken further to feedback from Cadw. In correspondence with Gwynedd Council (ref.: Y17/000175), Cadw have stated that the proposed access road will be within 170m of the scheduled monument CN031 Tomen Fawr (Medieval Ringwork), with the base for the crane within 300m. Due to the proximity of the scheduled monument and the limited vegetation screening within the proposed development area, a report assessing the impact of the development on the setting of the scheduled monument is required as part of the planning application. The methodology used for the impact assessment has been approved by Cadw and will be undertaken in accordance with the guidance set out in *Setting of Historic Assets in Wales* (Cadw, 2017), a four stage assessment process (cf. sec. 3.0). Cadw have requested an opportunity to review the findings of stages 1 and 2 before the assessment proceeds to stages 3 and 4.

The first two stages of the Archaeological Impact Assessment will be completed in July 2018 and will be undertaken in accordance with the following guidance:

- *Guidelines for digital archives* (Royal Commission on Ancient and Historic Monuments of Wales, 2015).
- *Historic Environment Record (HER) Guidelines for Archaeological Contractors* (Version 1.3; draft) (Gwynedd Archaeological Trust, 2014);
- *Management of Archaeological Projects* (English Heritage, 1991);
- *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England, 2015);
- *Planning Policy Wales* (Welsh Government 2016);
- *Setting of Historic Assets in Wales* (Cadw, 2017); and
- *Standard and Guidance for Desk-Based Assessment* (Chartered Institute for Archaeologists, 2014).

Gwynedd Archaeological Trust is certified to ISO 9001:2015 and ISO 14001:2015 (Cert. No. 74180/B/0001/UK/En) and is a Registered Organisation with the Chartered Institute for Archaeologists and a member of the Federation of Archaeological Managers and Employers (FAME).

The project will be monitored by Cadw. *The content of this WSI and all subsequent reporting by GAT must be approved by Cadw prior to final issue.*

The Historic Environment Record (HER) Event Primary Reference Number for this project is 45279; the HER Enquiry number is GATHER962.

## 2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

As specified on *Archwilio*, scheduled monument CN031 is a medieval ring motte without a bailey, defended by a ditch on all sides except the south, where the natural slope was scarped to produce the same effect and the material used to emphasise the bank encircling the top. The Tomen Fawr ringwork now stands in isolation, but was a Norman defensive enclosure, later reused by the Welsh Princes and eventually serving as the centre of the township of Ffriddlwyd (GAT Report 712). The township was later given to the Cistercians and became a grange of the Aberconwy Abbey, but returned to the Crown through an exchange. Traces of a possible rectangular structure survive within the ringwork and small depressions in the grass may indicate the positions of gateposts. No associated field systems have been identified within the surrounding area (*ibid.*). In 2004, GAT completed a programme of archaeological work, including evaluation, excavation and watching brief, in advance of, and during, the construction of the A497 Road Improvement Scheme between Abererch and Llanystumdwy and an associated gas pipeline realignment scheme (GAT Reports 625 and 624 respectively). Ninety-nine evaluation trenches were opened across the 6.5km length of the scheme. Evidence for archaeological activity within these was mainly limited to post-medieval agricultural activity, but six of the trenches contained archaeology of greater significance, including evidence for Romano-British domestic activity identified at the western end of the scheme and Early to Late Bronze Age burnt mound and funerary activity within the central and eastern portions of the scheme. The Late Bronze Age site included a fragmented vessel made from coarse pottery buried in a small pit. An Early Bronze Age funerary site was excavated towards the eastern end of the scheme, northeast of Afon wen Farm and c.400m from Glanllynau Farm. The site incorporated a large enclosure ditch forming a ring barrow, at the centre of which were two burial pits each containing a cremation urn. The archaeological watching brief followed on from the excavation phase and was conducted across the entire length of the road scheme but no further activity was identified during this phase. In 2007 and 2008, GAT completed an archaeological assessment and controlled strip at Glanllynau Farm in advance of a storage yard extension, located 150m east of Tomen Fawr (GAT Reports 686 and 712). Archaeological activity was limited to two suspected prehistoric pits; no evidence for medieval activity was identified within the controlled strip area.

## 3 METHODOLOGY

### 3.1 Impact Assessment

The impact assessment will be undertaken in accordance with the best-practice guidance set out in *Setting of Historic Assets in Wales* (Cadw, 2017). As stated in the guidance, the document “outlines the principles used to assess the potential impact of development or land management proposals within the settings of World Heritage Sites, ancient monuments (scheduled and unscheduled), listed buildings, registered historic parks and gardens, and conservation areas” (ibid.,: ii). Setting is defined in the guidance as the broader landscape context into which the individual historic asset is set; this context includes physical and cultural factors specific to that location.

The assessment of the impact of the proposed development on the setting of the Tomen Fawr Scheduled Monument will be carried out in the four stages specified in the guidance document:

- **Stage 1:** Identify the historic assets that might be affected by a proposed change or development;
- **Stage 2:** Define and analyse the settings to understand how they contribute to the significance of the historic assets and, in particular, the ways in which the assets are understood, appreciated and experienced;
- **Stage 3:** Evaluate the potential impact of a proposed change or development on that significance; and
- **Stage 4:** If necessary, consider options to mitigate or improve the potential impact of a proposed change or development on that significance.

Following consultation with Cadw, it has been agreed that a draft copy of the findings from Stages 1 and 2 will be submitted to Cadw for review and comment before Stage 3 of the process is initiated.

More detailed information regarding the individual assessment stages is included overleaf.

*Stage 1: Identify the historic assets that might be affected by a proposed change or development. This will be qualified by the following:*

- i. An examination of location, size and scale of the proposed development; and
- ii. The location of identified historic assets.

The historic asset that might be affected by the proposed development has already been identified by Cadw as the Tomen Fawr Scheduled Monument CN031 (ref.: Y17/000175). The regional Historic Environment Register ((HER) Gwynedd Archaeological Trust, Craig Beuno, Ffordd y Garth, Bangor, Gwynedd LL57 2RT) will be examined for information concerning the affected monument; The National Monuments Record of Wales (Royal Commission on the Ancient and Historical Monuments of Wales, Plas Crug, Aberystwyth SY23 1NJ) will be checked for additional data. If available, a conservation management plan for Tomen Fawr will also be consulted for additional information on the historic asset and the environs.

*Stage 2: Define and analyse the settings to understand how they contribute to the significance of the historic assets and, in particular, the ways in which the assets are understood, appreciated and experienced.*

The setting of a historic asset is made up of:

- its current surroundings
- our present understanding and appreciation of the historic asset
- what (if anything) survives of its historic surroundings.

The *Setting of Historic Assets in Wales* (Cadw, 2017) provides a series of questions to help define the significance of the asset:

- How do the present surroundings contribute to our understanding and appreciation of the historic asset today? *This will involve an examination of the location of the ringwork within its current environment, comprising a coastal farming landscape;*
- Thinking about when the historic asset was first built and developed:
  - what were its physical, functional and visual relationships with other structures/historic assets and natural features? *This will involve an examination of the medieval landscape in which it was built, the defensive function of the ringwork and its visual relationship to other Norman period assets,*
  - what topographic or earlier features influenced its location/what was its relationship to the surrounding landscape/was it constructed to take advantage of significant views or to be a part of a significant view? *This will examine the strategic location of the ringwork in relation to the local environment, including the nearby coastline;*
- Thinking about changes since the historic asset was built:
  - has its function or use changed? *What is the current condition of the ringwork and how is it managed;*
  - what changes have happened to the surrounding landscape/streetscape? *This will examine the alteration of the landscape over the successive*

*centuries, including the evidence for surviving medieval field systems and the evolution and management of the agricultural landscape, including the recent yard extension at Glanllynau Farm.*

- have changes happened because of changes to the historic asset or to its historical setting? *The asset no longer retains a defensive function and is incorporated into a managed agricultural landscape that has seen further modern development, including the expansion of Glanllynau Farm to the east and the improvement of the A497 road to the north. These factors, amongst any others to be identified, will be considered in this context*
- has the presence of the historic asset influenced changes to the landscape, for example, where a monument has been used as a marker in the layout of a field enclosure/ has the presence of the historic asset influenced the character of the surrounding landscape/streetscape/have historic and designed views to and from the historic asset changed? *The function of the ringwork as a defensive enclosure will be considered here;*
- Thinking about the original layout of the historic asset and its relationship to its associated landscape:
  - were these relationships designed or accidental/how did these relationships change over time? *This will examine the role played by the ringwork in the local environment, topographically, strategically and culturally*
  - how do these relationships appear in the current landscape; are they visual or buried features? *This will examine if there are any associated features visible or suspected and will include an examination of the known archaeological assets in the local area, including features identified during the A497 road improvement scheme and gas pipeline replacement scheme to the north (GAT Reports 625 and 624 respectively) and the yard extension at Glanllynau Farm to the west (GAT Reports 686 and 712);*
  - Are there other significant factors, such as historical, artistic, literary, place name or scenic associations, intellectual relationships (for example, to a theory, plan or design), or other non-visual factors such as sounds or smells that can be vital to understand the historic asset and its setting? *This will include an examination of archival sources to examine the historic and cultural*

*impact of the ringwork, e.g., any historic images, or paintings of the asset within the landscape.*

Stage 2 will also identify the viewpoints from which the impact of the proposed change or development should be assessed, taking into account:

- views to, from and across the historic asset that were designed and developed when the historic asset was first created; *for this asset this will primarily be its defensive function and the strategic view it would have created*
- views to, from and across the historic asset which are linked with a time in its history; *this will include an examination of the viewpoints related by any historic images, or paintings of the asset within the landscape*
- important modern views to, from and across the historic asset – for example, popular visitor viewing points. *This will examine any known visitor viewing points to the asset; the asset is on private farmland, but its visibility from other locations will be considered, e.g., the coastline, the local road.*

*Stage 3: Evaluate the potential impact of a proposed change or development on that significance.*

The *Setting of Historic Assets in Wales* stated that at the end of stage 3, the assessment should be able to identify the impact that the proposed development will have within the setting of a historic asset. The impact will be expressed as positive, neutral or negative and an indication of its magnitude given. The photographs from the viewpoints identified in Stage 2 will be used to assess and explain the impact of the proposed development along with the use of *MapInfo* GIS for data gathering and digital modelling.

For Stage 3, the *Setting of Historic Assets in Wales* lists 11 factors to be considered:

1. the visual impact of the proposed change or development relative to the scale of the historic asset and its setting; *this will include the size of the development (e.g., in m<sup>2</sup>) in relation to the asset*
2. the visual impact of the proposed change or development relative to the location of the historic asset; *this will include an assessment of the distance of the development from the asset – the access road will be 85m from the asset, the waste transfer area 91m, and the crane pad 207m.*
3. whether the proposed change or development would dominate the historic asset or detract from our ability to understand and appreciate it — for example, its functional or physical relationship with the surrounding landscape and associated structures and/or buried remains; *this will include the examination of where the development will be positioned, how it relates to the local landscape and how it will function as an extension of the existing farmstead and whether these will affect how the asset is understood and appreciated.*
4. the presence, extent, character and scale of the existing built environment within the surroundings of the historic asset and how the proposed change or development compares with this; *this will include an examination of the local agricultural landscape, which is owned and managed by the proposed developer at Glanllynau Farm and the scale of the development in comparison with this.*
5. the lifespan of the proposed change or development and whether or not the impact might be reversible; *direct knowledge of the development proposals will be considered here, including the nature and function of the access road, the waste*

*transfer area and the concrete crane pad, this associated infrastructure (including fencing and lighting) and the nature and use of the mobile crane.*

6. the extent of tree cover, whether it is deciduous or evergreen, and its likely longevity; *the presence of tree cover surrounding the asset and within the local area will be considered.*
7. the impact of artificial lighting — for example, on night-time view; *direct knowledge of the development proposals will be considered here, specifically the use of lighting for site access, use and security.*
8. the capability of a landscape setting to absorb change or new development without the erosion of its key characteristics; *an examination of how the local agricultural landscape will accommodate the crane pad, waste transfer area and associated infrastructure.*
9. the impact of the proposed change or development on non-visual elements of the setting and character of the historic asset, such as sense of remoteness, evocation of the historical past, sense of place, cultural identity or spiritual responses; *the proposed development will be within an agricultural landscape, with the asset as an apparent isolated medieval feature and the assessment will examine if the proposed development will impact on this sense of place*
10. the impact of non-visual elements of the proposed change or development, such as the removal or addition of noises and smell; *the crane will be used for unloading and loading inert materials and aggregate and the assessment will examine the impact of the proposed development through the operation of the crane and associated infrastructure, the operational hours and days and the nature of the material being loaded/unloaded. This can be compared to the existing impact from the operation of the farmstead, including the greenwaste storage facilities that are located 150m east of the asset.*
11. the cumulative effect of the proposed change or development — sometimes relatively small changes, or a series of small changes, can have a major impact on our ability to understand, appreciate and experience a historic asset. *This will examine the potential cumulative use of the loading facility overtime and how this compares to the existing impact from the operation of the farmstead.*

For the viewpoint impact assessment, field visits will be undertaken and a photographic record made in RAW format using a digital SLR set to maximum resolution (Nikon D3000; resolution: 3,872 × 2,592 [10.2 effective megapixels]). A photographic metadata table will be completed and included in the report. Photographic images will be archived in TIFF format; the archive numbering system will start from G2564\_001.

*Stage 4: If necessary, consider options to mitigate or improve the potential impact of a proposed change or development on that significance*

This would involve any proscribed action taken to avoid or minimise any harm to the significance of the historic asset and its setting, should this have been identified on conclusion Stage 3. The measures would need to be within the planning application boundary being considered and could include relocation of the development or elements therein or the introduction screening. The impact would need to be reassessed in the light of mitigation recommendations.

## 3.2 Reporting

Following completion of the stages outlined above, a report will be produced incorporating the following layout:

1. Front cover
2. Inner cover
3. Figures and Plates List
4. Non-technical summary
5. Introduction
6. Methodology
7. Results
  - i. Stage 1
  - ii. Stage 2
  - iii. Stage 3
  - iv. Stage 4
8. Conclusions and recommendations
  - a. Conclusion
  - b. Recommendations
9. Acknowledgements
10. Bibliography
  - a. Primary sources
  - b. Secondary sources
11. Figures; inc.:
  - location plan
12. Plates
13. Appendix I approved written scheme of investigation
14. Appendix II Photographic metadata
15. Back cover

Illustrations will include plans of the location of the study area and archaeological sites. Historical maps, when appropriate and if copyright permissions allow, will be included.

## 4 DISSEMINATION AND ARCHIVING

A draft copy of the report on Stages 1 and 2 of the assessment will be submitted to Cadw for review by the end of July 2018. Following Cadw approval of the findings of the Stage 1 and 2 assessments, Stages 3 and 4 will be completed and a draft copy of the full assessment report will be completed and sent to Cadw, and *Mr Harri Parry*. Once approved, the following dissemination will apply:

- A paper report(s) plus digital report(s) will be provided to the client and Cadw and (draft report then final report);
- A paper report plus a digital report will be provided to the regional Historic Environment Record, Gwynedd Archaeological Trust. If appropriate, digital information such as the project database, GIS table(s) and photographs, will also be submitted. All digital datasets submitted will conform to the required standards set out in Gwynedd Archaeological Trust's *Historic Environment Record (HER) Guidelines for Archaeological Contractors* (Version 1.3; draft);
- A digital report and archive data will be provided to Royal Commission on Ancient and Historic Monuments, Wales. Submission of digital information to the Royal Commission on the Ancient and Historical Monuments of Wales shall be undertaken in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. Digital information will include the photographic archive and associated metadata;

## **5 PERSONNEL**

The project will be managed by John Roberts, Principal Archaeologist GAT Contracts Section. The evaluation will be completed by a project officer who will have responsibility for completing the setting impact assessment, maintaining the site archive, liaising with and *Mr Harri Parry* and submitting the draft and final reports. Project archaeologists will conduct the fieldwork and have responsibility for maintaining the site archive and contributing to the draft and final reports. The project manager will be responsible for reviewing and approving the report prior to submission.

## **6 HEALTH AND SAFETY**

The GAT Project Archaeologist(s) will be CSCS certified. Copies of the site specific risk assessment will be supplied to the client and sub-contractor prior to the start of fieldwork. Any risks and hazards will be indicated prior to the start of work via a submitted risk assessment. All GAT staff will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and hard hat (where applicable). All GAT fieldwork is undertaken in accordance with the Trust's Health and Safety Manual, Policy and Handbook which were prepared by Ellis Whittam.

## **7 INSURANCE**

*The project is due to commence after the current insurance policies expire. The client will be sent the relevant details once these insurances have been renewed.*

### **7.1 Public Liability**

Limit of Indemnity- £5,000,000 any one event in respect of Public Liability

INSURER Aviva Insurance Limited

POLICY TYPE Public Liability

POLICY NUMBER 24765101CHC/000405

EXPIRY DATE 22/06/2018

### **7.2 Employers Liability**

Limit of Indemnity- £10,000,000 any one occurrence.

The cover has been issued on the insurers standard policy form and is subject to their usual terms and conditions. A copy of the policy wording is available on request.

INSURER Aviva Insurance Limited

POLICY TYPE Employers Liability

POLICY NUMBER 24765101CHC/000405

EXPIRY DATE 22/06/2018

### **7.3 Professional Indemnity**

Limit of Indemnity- £5,000,000 in respect of each and every claim

INSURER Hiscox Insurance Company Limited

POLICY TYPE Professional Indemnity

POLICY NUMBER

HU PI 9129989/1208

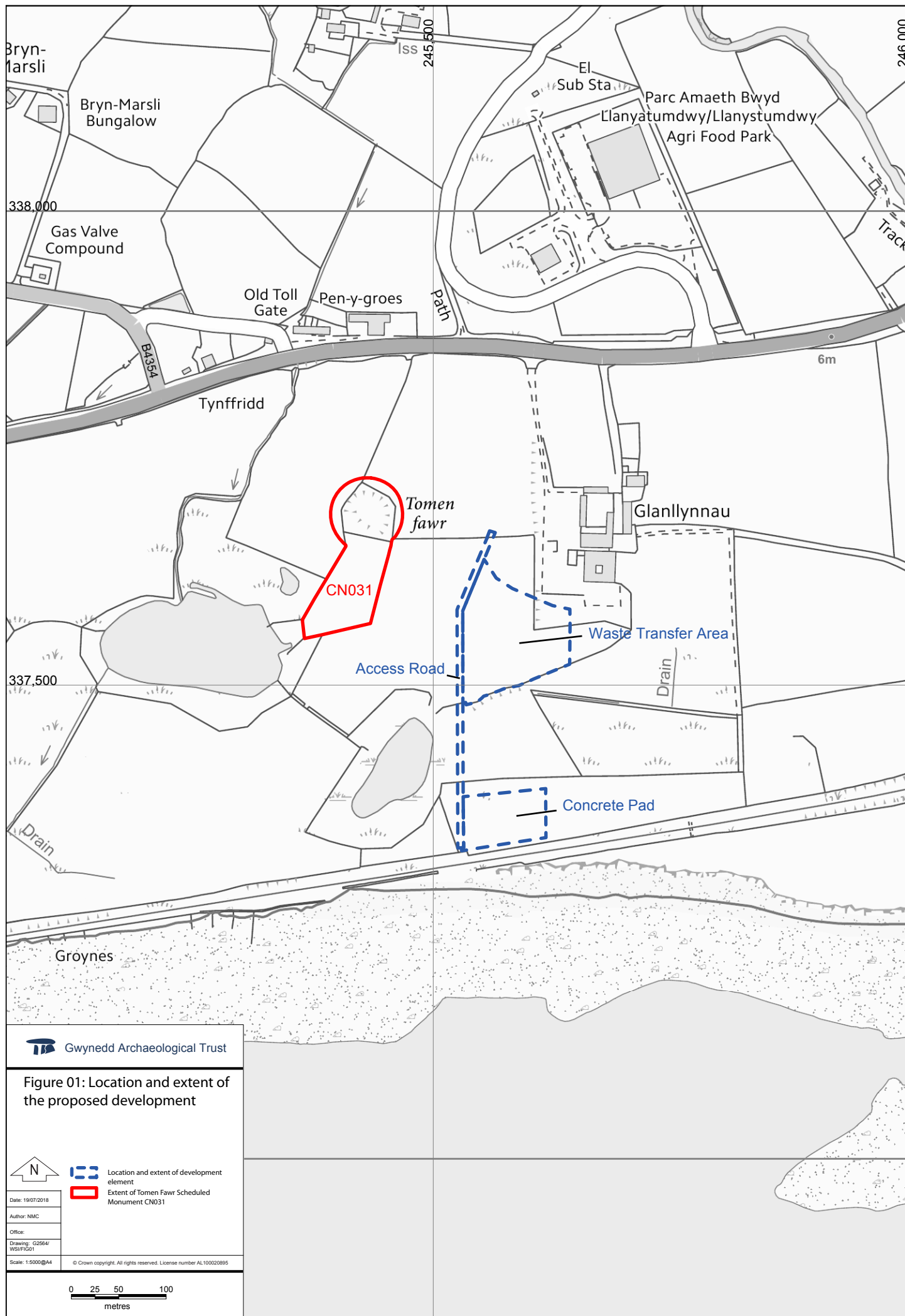
EXPIRY DATE 23/07/2018

## 8 SOURCES CONSULTED

1. Chartered Institute for Archaeologists, 2014, *Standard and Guidance for Desk-based Assessment*;
2. Chartered Institute for Archaeologists, 2014, *Standard and Guidance for Geophysical Survey*;
3. Chartered Institute for Archaeologists, 2014, *Standard and Guidance for Archaeological Field Evaluation*;
4. English Heritage, 1991, *Management of Archaeological Projects (MAP2)*;
5. English Heritage, 2011, *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation*;
6. Gwynedd Archaeological Trust, 2014, *Historic Environment Record (HER) Guidelines for Archaeological Contractors* (Version 1.3; draft);
7. Historic England, 2015, *Management of Research Projects in the Historic Environment (MoRPHE)*;
8. Royal Commission on Ancient and Historic Monuments of Wales, 2015, *Guidelines for digital archives*

## **FIGURE 01**

**Location of the proposed development**



## **APPENDIX II**

### **Photographic Metadata**

PHOTO RECORD NUMBER	PROJECT NUMBER	DESCRIPTION	VIEW FROM	SCALE(S)	CREATOR	DATE OF CREATION
G2564_001	G2564	View from Tomen Fawr toward existing waste facility	W	not used	Stuart Reilly	20/12/2018
G2564_002	G2564	View from north edge of Tomen Fawr toward A497	SW	not used	Stuart Reilly	20/12/2018
G2564_003	G2564	View from top of Tomen Fawr toward field of new development	W	not used	Stuart Reilly	20/12/2018
G2564_004	G2564	View from top of Tomen Fawr toward field of new development; blocked by gorse	NW	not used	Stuart Reilly	20/12/2018
G2564_005	G2564	View from south east corner of Tomen Fawr toward main field of new development	NW	not used	Stuart Reilly	20/12/2018
G2564_006	G2564	View of salt marsh and Cardigan Bay from south edge of Tomen Fawr	NW	not used	Stuart Reilly	20/12/2018
G2564_007	G2564	View from Tomen Fawr toward mouth of Afon Wen (beyond salt marsh)	NE	not used	Stuart Reilly	20/12/2018
G2564_008	G2564	View from Tomen Fawr toward mouth of Afon Dwyfor (not visible)	NW	not used	Stuart Reilly	20/12/2018
G2564_009	G2564	View from south east corner of Tomen Fawr toward Criccieth Castle	W	not used	Stuart Reilly	20/12/2018
G2564_010	G2564	View from north west corner of Tomen Fawr toward smithing site and A497	SE	not used	Stuart Reilly	20/12/2018
G2564_011	G2564	View toward new development from lower (southern) part of Tomen Fawr	W	not used	Stuart Reilly	20/12/2018
G2564_012	G2564	View toward new development from lower (southern) part of Tomen Fawr	NW	not used	Stuart Reilly	20/12/2018
G2564_013	G2564	View of Tomen Fawr from the south	S	1x1m	Stuart Reilly	20/12/2018
G2564_014	G2564	Coastal view of facility and Tomen Fawr	S	not used	Stuart Reilly	20/12/2018

PHOTO RECORD NUMBER	PROJECT NUMBER	DESCRIPTION	VIEW FROM	SCALE(S)	CREATOR	DATE OF CREATION
G2564_015	G2564	View along railway line and possible location of crane	W	not used	Stuart Reilly	20/12/2018
G2564_016	G2564	View of facility from the coast	SW	not used	Stuart Reilly	20/12/2018
G2564_017	G2564	View along coast of Cardigan Bay and railway line	E	not used	Stuart Reilly	20/12/2018
G2564_018	G2564	South west corner of Tomen Fawr; signs of erosion and exposed mound material	SW	1x1m	Stuart Reilly	20/12/2018
G2564_019	G2564	Remnants of Tomen Fawr ditch at north side	SW	1x1m	Stuart Reilly	20/12/2018
G2564_020	G2564	View of Tomen Fawr and ditch	NW	1x1m	Stuart Reilly	20/12/2018
G2564_021	G2564	View of north side of Tomen Fawr	N	1x1m	Stuart Reilly	20/12/2018
G2564_022	G2564	View of Tomen Fawr from A497 and smithing site	NW	not used	Stuart Reilly	20/12/2018



Gwynedd Archaeological Trust  
Ymddiriedolaeth Archaeolegol Gwynedd



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