

Archaeology Wales

Land off Pheonix Way, Garngoch Business Village, Swansea, SA4 9WF

Setting Impact Assessment

GM199



By
Philip Poucher


Report No. 1704


Archaeology Wales

Land off Pheonix Way Garngoch Business Village Swansea SA4 9WF

Setting Impact Assessment
GM199

Prepared For: Moller PCI

Edited by: Rowena Hart
Signed: 
Position: Regional Director
Date: 27/09/18

Authorised by: Mark Houliston
Signed: 
Position: Managing Director
Date: 27/09/18

By
Philip Poucher MCifA

Report No. 1704

September 2018

CONTENTS

Non-Technical Summary	1
1. Introduction	2
2. Methodology	2
3. Stage 1: Identifying the Historic Asset	3
4. Stage 2: Define and Analyse the Setting	8
5. Stage 3: Evaluation of the Potential Impact of Change/Development	12
6. Stage 4: Mitigation Options	14
7. Conclusions	14
8. Sources	16

List of Figures

1	Location map
2	Plan of proposed development and Scheduled Area of GM199
3	Extract from the First Edition Ordnance Survey Map 1880
4	Aerial photograph taken by the RAF, 1946
5	Aerial photograph taken by Meridian, 1970
6	Aerial photograph taken by Meridian, 1981
7	Plan of proposed development
8	Elevations of proposed development
9	Plan of proposed development in relationship to GM199
10	Location and direction of photos

List of Photos

1 – 4	Views towards GM199 from Garn Goch Common to the south, incorporating the proposed development site and Industrial Estate.
5 – 9	Views towards GM199 from the west, incorporating the proposed development site.
10	View from high ground to the east towards the proposed development site and GM199.
11 – 19	360° views from GM199
20 – 25	Views of and from the proposed development site

Copyright Notice:

Archaeology Wales Ltd. retain copyright of this report under the Copyright, Designs and Patents Act, 1988, and have granted a licence to JCR Planning Ltd and Moller PCI, to use and reproduce the material contained within.

The Ordnance Survey has granted Archaeology Wales Ltd a Copyright Licence (No. 100055111) to reproduce map information; Copyright remains otherwise with the Ordnance Survey.

Non – Technical Summary

In June 2018, Archaeology Wales was commissioned by JCR Planning Ltd, on behalf of their clients Moller PCI, to carry out an assessment of the impact of a proposed development on the setting of a Scheduled Ancient Monument (GM199) which lies approximately 185m from the proposed development at land forming part of Garngoch Business Village, Swansea, SA4 9WF. This assessment has been prepared as part of the submission of a planning application (2018/0128/FUL).

The methodology used follows the guidance and methodology offered in 'Setting of Heritage Assets in Wales' (Cadw 2017). This is laid out in a four stage approach.

Stage 1 identifies the historic assets, which in this case has already been agreed as the site and setting of GM199 (Garn Goch Round Barrow), a Bronze Age round barrow.

Stage 2 defines and analyses the setting of the archaeological site. The main elements of the current setting of the site include an area of raised drier ground upon which the monument is located, surrounded by wetter ground or modern development. Views southward from the monument are also important elements of its original and current setting. Similarly view north toward the monument from the northern part of the common and intermittently along Hospital Road are important elements of its original and current setting. Views to and from potential associated prehistoric enclosures further south on the common may have been important elements of its current setting, although these views are now obscured. Potentially important inter-visibility with sites on a ridgeline to the southeast are maintained. Originally views from the north may also have been part of its setting, but these areas have since been developed. An archaeological evaluation in 2004 could find no further evidence of associated activity in the immediate vicinity, and borehole results suggest significant quantities of colliery waste to the north and east. Nevertheless, associated activity may have been located in the vicinity, possible prehistoric sites have been identified to the south (PRNs 1133w & 1134w), and known peat deposits in the area may contain important associated environmental evidence. The barrow also remained an important focal point during the subsequent use of the surrounding common, although becoming denuded in scale, significance and visibility during the 20th century.

Stage 3 evaluates the potential impact of the proposed development. This development comprises plans for a new cold storage unit with associated engineering and drainage works, the building being two-storey high and covering a footprint of 1420m², surrounded by hardstanding and landscaped areas. Due to its location and the scale and appearance of surrounding development, the visual impact of the scheme on the setting of GM199 will be limited. The proposed development will not impede most views to or from the monument, nor will it impede access and detract significantly from other sensory experiences of the monument. Elements of the proposed development will be visible in the backdrop when the monument is viewed from the west/southwest, and in views from the monument to the northeast. The scale and location of development, and intervening structures and vegetation, will significantly reduce this impact. There is some potential that development may affect associated peat deposits, either directly or through altered hydrology, but it is anticipated that peat deposits will be deeply buried, are at some distance from the monument, and rainwater will be returned to the local watercourses. The negative impact of the proposed development on the setting of GM199 is therefore considered to be Very Slight.

Stage 4 suggests mitigation measures. However, no further specific mitigation measures are considered to reduce the impact. It is suggested that a potential beneficial impact would be to facilitate renewed access to the site, but it is acknowledged that this may not be possible or practical within the design scheme.

1 Introduction

- 1.1 In June 2018 Archaeology Wales (AW) was commissioned by JCR Planning Ltd, on behalf of their clients Moller PCI, to carry out an assessment of the impact of a proposed development on the setting of a Scheduled Ancient Monument (GM199) which lies approximately 185m from the proposed development at land forming part of Garngoch Business Village, Swansea, SA4 9WF (henceforth – the site), centred on NGR SS 60765 98229 (Figures 1 & 2, AW Project Number 2631).
- 1.2 This assessment has been prepared as part of the submission of a planning application. The local planning authority is the City and County of Swansea (henceforth – CCS), the planning application number is 2018/0128/FUL.
- 1.3 The purpose of the Assessment, which is detailed in the following report, is to provide CCS with the information they are likely to request in respect of the proposed development, the requirements for which are set out in Planning Policy (revised edition 9, 2016), Section 6.5 and Technical Advice Note (TAN) 24: The Historic Environment (2017). The work is also designed to inform Cadw about the potential impacts on nearby designated archaeological sites.
- 1.4 Cadw responded to the planning application in a letter to CCS dated 15/2/18, requesting further information in respect of the proposed development. Within the letter Cadw state:

‘The proposed development will be clearly visible from the scheduled monument [GM199] and will cause damage to its setting. This will be a material consideration in the determination of this application (see Planning Policy Wales 2016 section 6.5.5): However no information on this issue has been submitted with the application and therefore we are currently not in a position to provide your Authority with advice. You should therefore request that the applicant presents an assessment of the impact of the proposed development on the setting of the scheduled monument prepared in accordance with the methodology outlined in the Welsh Government’s best-practice guidance Setting of Heritage Assets in Wales (2017).’
- 1.5 The proposed development comprises plans for the construction of a new office building with associated warehouse.

2 Methodology

- 2.1 The methodology for this assessment follows the guidance and methodology offered in ‘Setting of Heritage Assets in Wales’ (Cadw 2017). This assessment also conforms to the Standard and Guidance for Archaeological Desk-Based Assessment, as produced by the Chartered Institute for Archaeologists (CIfA 2014).
- 2.2 This methodology sets out a four stage approach:

Stage 1: Identify the historic assets that might be affected by a proposed change or development and their significance.

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

Stage 3: Evaluate the potential impact of a proposed change or development on those settings.

Stage 4: Consider options to mitigate the potential impact of a proposed change or development on those settings.

2.3 Stage 1 has been established through consultation with Cadw, and an examination of sites recorded on the regional Historic Environment Record and historical research. As a result this assessment examines the Scheduled Ancient Monument of Garn Goch Round Barrow GM199.

2.4 As a Scheduled Ancient Monument this site, and its setting, is considered to be of High archaeological value. Following the evaluation of the potential impact, this impact will be assessed as either positive, neutral or negative. Positive or negative impacts will be described as severe, moderate, slight and very slight. Severe equates to a 'significant impact' in environmental impact assessment terminology.

3 Stage 1: Identifying the Historic Asset.

3.1 This assessment is primarily concerned with Scheduled Ancient Monument GM199 (Garn Goch Round Barrow). This has been identified through consultation with Cadw and research into historic assets in the vicinity. This site is further described below.

3.2 Site Description

3.2.1 Garn Goch Round Barrow is an earth built round barrow, a funerary and ritual site likely dating to the Bronze Age (*circa* 2300 – 800 BC). The grass-covered mound measures 29.9m in diameter and 0.9m to 1.7m high, also now largely covered in dense scrub. The centre of the mound has been dug away and the foundations of a stone and brick building, 4m square, are visible, reportedly a powder magazine associated with a late 19th century colliery to the north. The mound has also been previously excavated in 1855 and was found to contain a number of burials.

3.2.2 The barrow itself now sits at the northern edge of Garn Goch common, an area of gently undulating open rough ground, largely grass-covered with areas of denser undergrowth and wetter ground throughout. The rough ground spans both sides of Hospital Road to the west of the barrow and continues beyond the A484 to the south. Garngoch Industrial Estate forms the northern edge of the rough ground, and provides the backdrop to the north and west of the barrow. The barrow occupies an area of slightly raised ground towards the northern end of the common, bounded by water channels separating it both from lower ground to the southwest and south, and from a ridge of similarly raised ground extending away to the east.

3.2.3 The proposed development site lies outside the Scheduled Area, 180m to the northeast. The site lies on the southern edge of the Garngoch Industrial Estate. This industrial estate comprises large modern industrial and retail units and warehouses, built in a mixture of styles comprising metal, brick and clad structures, generally one to two storeys in height. These are

surrounded by car parking areas, modern metal fencing and maintained lawn areas, planting beds and interspersed with trees. The site itself is bounded to the north, east and west by modern tarmac roads. To the north the opposite side of the road (Phoenix Way) is developed as part of the Industrial Estate. To the west the opposite side of the road lies a large modern brick and grey-clad industrial building, surrounded by tarmacked car parking and modern metal fencing. To the east the opposite side of the road is undeveloped with scrubland continuing. To the south the area opens out on the scrubland but is bounded by high dense scrub along the northern edge of Garn Goch common.

- 3.2.4 Further afield to the southwest lies a small area of agricultural land beyond which lies the largely modern settlement of Garden Village, 800m to 1km to the southwest of GM199 and the development site respectively. A similar distance to the northeast lies the largely modern settlement of Penlleger, which extends as far as the edge of the Garngoch Industrial Estate, with a belt of agricultural land to the south and north. Around 1.3km to the west lies the larger settlement of Gorseinon.
- 3.2.5 The underlying geology of the area comprises mudstones, siltstones and sandstones of the Grovesend formation, overlaid with Devensian Till (BGS 2018).

3.3 Previous archaeological studies

- 3.3.1 There have been two archaeological investigations of note within the immediate area. In 1855 the Garn Goch round barrow was excavated by Talbot Dillwyn Llewellyn. A brief report in the *Archaeologia Cambrensis* of that year (Arch.Camb 1855) notes that a number of decorated funerary urns were discovered, along with smaller urns believed to have contained food offerings, presumably pygmy cups. The mound itself was made of stone, and surrounded by an inner and outer ditch, the two not being entirely concentric. Subsequent descriptions (Stanley & Way 1868) note the cairn was 90 feet (27.4m) in diameter, by 4 feet (1.2m) in height, although some of the stone had been robbed in the early 19th century for the construction of a nearby road. The largest urn had been deposited in the ground prior to the construction of the cairn, with the primary burial comprising human bone and ashes in a stone cist, surrounded by a stone ring 4.6m to 5.5m wide with an internal diameter 7.3m wide. Outside the stone ring to the south was a circular cist containing animal bone, whilst on the west side were the remaining burials comprising five stone cists, a clay cist and three further funerary urns.
- 3.3.2 In 2004 Glamorgan-Gwent Archaeological Trust were commissioned to evaluate land to surrounding the Garn Goch barrow prior to the extension of the Garngoch Industrial Estate (Sherman 2004). Five 20m long trenches were excavated surrounding the monument, but no further evidence of Bronze Age activity was revealed, or indeed significant archaeology of a later date. Although suggesting Bronze Age activity may not have been extensive surrounding the site, there remains the possibility that evidence of activity could survive in the area, and peat deposits found at a depth of over 1m may hold important environmental information. The report also recommended that views of the monument from Hospital Road should be maintained as an important viewpoint.

3.3.3 The BGS record a number of borehole results from around the Garngoch Industrial Estate area. The closest of which appears to have been sunk just over 100m to the east of the proposed development site, although it is labelled as part of the Morriston Bypass, sunk in 1968 to a depth of 17m. The borehole revealed a significant deposit of made ground, comprising grey-black shale fragments, boulders and low quality coal fragments. This was found to extend to a depth of 54 feet (16.4m). Below this was a band of peat around 0.3m thick, below which was a brown sandy-clay with stones. A second borehole to the northeast revealed a very similar sequence of deposits and depths. On the western edge of the industrial estate another in this sequence of 1968 boreholes recorded made ground comprising burnt shale, mudstone fragments and coal fragments to a depth of 32 feet (9.8m), overlaying around 0.6m of peat, with the brown sandy-clay with stones below that (BGS 2018). It is likely these boreholes are recording significant deposits of colliery waste, much of which has since been landscaped and/or developed upon.

3.4 HER data

3.4.1 A search of the regional Historic Environment Record (enquiry reference number 5817) revealed no further evidence of Bronze Age activity in the vicinity. The nearest features of potential Bronze Age comprise two possible further burial mounds lying 3km to the east (PRNs 380w, 5121w & 5122w). These two mounds were recorded as tumuli by Morgan in 1899, but have since been ploughed out, with subsequent suggestions that they may represent an old coal tip and a natural feature.

3.4.2 Two enclosures of unknown date are however recorded on Garn Goch common to the south (Figure 2). 530m to the southeast lies PRN 1133w, a roughly circular enclosure formed by a single bank with a shallow external ditch, approximately 23m in diameter internally. 730m to the southeast of the barrow lies PRN 1134w, a less distinct sub-rectangular enclosure, with a possible house site on the edge (Wiggins & Evans 2005). The date of these enclosures are currently untested, but there is the potential that they represent prehistoric enclosures of a contemporary or near contemporary date to the barrow site. Subsequent to the site visit Cae Lwyn (PRN 1777w) may also be of note, lying as it does on the crest of a prominent local summit 900m to the southeast. The feature would appear somewhat enigmatic, being described as a Roman signal station, and also a circular wall containing mature beech trees. Given its circular nature and summit-top location it may represent a former Bronze Age burial mound, although again this hypothesis is untested.

3.4.3 Garn Goch common was supposedly the site of a 12th century battle between the English and the Welsh (PRN 390w), although the exact location of the battle has never been conclusively ascertained. The remaining archaeological sites recorded in the surrounding area are later post-medieval and modern in date, and refer to coal mining activity at Gorseinon (PRN 1357w) and Garn-goch (PRN 1386w) collieries, along with an associated mineral railway (PRN 1189w), the late 19th/early 20th century Garn Goch Isolation Hospital (PRN 6763w) on the common to the south, and Second World War anti-glider trenches (PRNs 4604w & 6762w).

3.5 Map Regression

- 3.5.1 Although the barrow is not marked on some of the earliest detailed maps of the area, such as the Ordnance Survey original surveyors drawing of 1813 and the tithe map of Llangevelach (1841) and Loughor (1841), the simple fact the area is labelled as 'Mynydd Carn Goch' on these maps indicates the site was an important feature of the landscape. At this time the open ground, and presumably common land, was more extensive, encompassing the area of Garngoch Industrial Estate and land to the northwest.
- 3.5.2 The barrow is clearly shown on the 1st edition Ordnance Survey map of 1880 (Figure 3). It lies in an area of open rough ground, with a trackway running north – south to the east, beyond which the ground would appear to get wetter. The proposed development site is located in this area of wetter ground. To the south a stream runs east – west, again separating the slightly drier and presumably higher ground around the barrow from wetter ground to the south. To the west this stream turns to the north, beyond which lies a further trackway that was subsequently to become the current Hospital Road. The common is surrounded by enclosed farmland, largely similar to the current extent of enclosure surrounding the common. The A4240 had been laid out by this time.
- 3.5.3 By the next edition of the Ordnance Survey mapping in 1898 Gorseinon Colliery had been laid out on the south side of the new road (the current A4240). A mineral railway now cut across the common from the colliery running to the southwest to the Carn-Goch colliery on the B4620 and beyond. This railway now separated the barrow and the proposed development site, still sited on wetter ground. The trackway that ran north – south had been moved closer to the barrow, and the powder magazine had also been built within the barrow by this date, associated with Gorseinon Colliery. A further drainage channel to the east of the barrow is also shown, possibly cut as part the general drainage works in this area. To the south a rifle range had also been set up on the common land. Urbanisation was beginning to spread to the edges of the common, with Gorseinon to the west and Penlleger to the east. By the 1916 map the powder magazine appears to have been rebuilt on a slightly larger scale, although the trackway adjacent to the site is no longer marked. A further structure is shown to the east, presumably a small rectangular building but otherwise unlabelled. The colliery to the north had continued to expand, the railway was still in use, and to the south two isolation hospitals had been established. The larger of the two comprises the site of the current Garngoch Hospital, with a smaller one to the north (PRN 6763w) that has since been demolished.
- 3.5.4 By 1935 the colliery site to the north had closed down, with a new colliery opened up to the east in farmland on the edge of the common. This new colliery continued to use the mineral railway, but the stretch leading past the site is presumed to have been disused along with the colliery by this time. The common to the south of the barrow was also being used as a golf course by this date, presumably subsequent to drainage works having been undertaken. By 1958 the colliery to the east had continued to expand, with spoil tips expanding towards the proposed development site. The initial development of Garngoch Industrial Estate had begun by this time, with a factory established on the north side of the A4240, with urban development extending up to the east side of the factory. By 1969-71 this had expanded into a Plastics Factory, with an adjacent Clothing Factory on the north side of the road. Development was also occurring on the south side of the road, with landscaping extending as

far as the current Phoenix Way. The mineral railway had been turned into a trackway. By the early 1980s the industrial estate had begun to expand to the south of Phoenix Way, to the northwest of the barrow site.

- 3.5.5 The mapping evidence indicates that the common land upon which the barrow sat formed an important feature and extended to the north-northwest and south-southeast for some distance, but with no other clear indication of associated features or specific viewpoints. The proposed development site lies in an area of wet ground. During the 20th century this landscape was gradually encroached upon by coal mining activity, with ground disturbance and spreads of colliery waste likely to the north and east of the site, as well as directly affecting the burial cairn itself. The industrial estate developed from the later 20th century onwards, largely built on the site of a former colliery, but cutting the site off from the former common land to the north.

3.6 Aerial Photographs (Figures 4 - 6)

- 3.6.1 Aerial photographic evidence of the area, held by the Aerial Photographic Unit in Cardiff, has been examined, including photographs from 1945 to the present day.
- 3.6.2 The barrow is visible on aerial photograph taken by the RAF in 1945-6 (Figure 4), which shows it set in open rough ground. These photographs show the line of the stream that flows to the south of the barrow. To the north of the barrow are the remains of the disused colliery and large spoil tips. The remains of the mineral rail line, leading from Garn-gôch Colliery to the south-east to Gorseinon Colliery to the north, is clearly shown to the east of the barrow. The proposed development site is located to the east of the mineral railway. The aerial photograph clearly shows the common land on which the barrow is located, with enclosed farmland surrounding it. There is very little settlement in the area surrounding the barrow. A small number of houses are located approximately 300m to the west, along Hospital Road. Approximately 300m to the south-east the aerial photograph shows a building associated with Gorseinon Isolation Hospital, the main building being approximately 400m beyond this. Further to the south-west is the Gorseinon garden village, while to the north-east there are houses along the A4240.
- 3.6.3 Subsequent aerial photographs from the 1960s show both the extent and the height of the colliery spoil tips surrounding the coal mines to the north and to the east. Although not encroaching upon the proposed development area or GM199 at this point it is clear these spoil tips represent a significant amount of material that may eventually have been spread across much of the northern common area. Images from the early 1970s show the initial layout of the industrial estate developing to the north of GM199 on the former colliery site (Figure 5). Disturbed ground and material appears to have been spread as far as the current boundary immediately to the north of GM199 but no further. The proposed development site is located on the northern edge of spoil emanating from the colliery to the east, suggesting the area of development, and much of the ground to its' south, is likely to consist of disturbed or imported material.
- 3.6.4 There is a gap in the aerial photographic coverage between 1970 and 1981. By the early 1980s (Figure 6) industrial units had spread to within 50 metres to the north-east of the barrow. The

line of the mineral railway is still visible to the east, while the building to the south-east associated with the Isolation Hospital has been demolished. The line of a track, or rail, between the mineral railway and GM199 can also clearly be seen, presumably the remains of the original access to the powder magazine located within the barrow remains. Urban settlement has also expanded in the landscape around the barrow with a large number of houses having been constructed to the north-east, and a smaller area of housing surrounding the garden village to the south-west.

- 3.6.5 Aerial photos from the early 1990s show little change at the barrow site, although the extensive colliery waste tips to the east have been landscaped, and the industrial estate continues to expand to the north and northeast. The common to the south would appear to remain a relatively open landscape at this time. Images by the RCAHMW in 2006 pick out the remains of the archaeological trenches excavated in the area around the barrow in 2004. Further images from 2007 record the building of the new industrial unit that lies between GM199 and the proposed development site, approximately 150 meters to the north-east of the barrow. Beyond this, to the east, a further new road coming off Phoenix Way has been constructed, this road will form the access road to the current proposed development.

3.7 *Extent of Scheduled Ancient Monument GM199*

- 3.7.1 As stated in the Scheduling description, the burial mound is of national importance for its potential to enhance our knowledge of prehistoric burial and ritual practices. Such features are an important relic of a prehistoric funerary and ritual landscape and retain significant archaeological potential. There is a strong probability of the presence of both intact ritual and burial deposits, together with environmental and structural evidence. The scheduled area covers a circular area approximately 27m in diameter and comprises the remains of the round barrow and areas around within which related evidence may be expected to survive.
- 3.7.2 As further stated in the Scheduling description, barrows may be part of a larger cluster of monuments and their importance can be further enhanced by their group value. However, an archaeological evaluation in 2004 (Sherman 2004) found no further evidence of Bronze Age activity in the vicinity, and research has not indicated any associated archaeological remains within the proposed development area, although possible prehistoric enclosures are suggested to the south.

4 Stage 2: Define and Analyse the Setting

4.1 *Identifying the extent of monument settings*

- 4.1.1 The setting of a monument such as Garn Goch Round Barrow includes ‘the surroundings in which it is understood, experienced and appreciated, embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surrounding evolve’ (Cadw 2017). As such it often extends beyond the physical boundaries of the monument itself. This may include physical elements in its surroundings, such as boundaries and other monuments, relationships with other historic assets and natural features, or associated agricultural, industrial or other surroundings. Less tangible elements

are also included, such as function, sensory perceptions, historical, artistic, literary and scenic associations.

4.2 Present setting (Photos 1-25)

- 4.2.1 Two attempts were made to visit the site of GM199 and its surrounds, illustrating the changeable nature of the surrounding area. An initial visit in July was unable either to access GM199 or to view the site from surrounding viewpoints due to dense vegetation and blocked access routes. However, subsequent to an extensive grass fire following a prolonged period of hot dry weather, vegetation had been denuded allowing access and viewpoints from the east and south, including intermittent views from Hospital Road (previously obscured).
- 4.2.2 The barrow currently comprises a disturbed mound, covered in thick scrub and small trees, the interior of which is not accessible (Photos 1, 2 & 6-8). It lies within an area of grass and intermittent scrub recently cleared through a grass fire, leaving the grassed areas patchy, with tall grass surviving to the west. It occupies a slightly raised area, defined by a water channel to the south and southeast. This raised area extends to the northeast before it meets an area of denser scrub and trees defining the boundary of the Industrial Estate (Photos 7-9 & 15-16). To the north and northwest of the barrow ground begins to fall away to meet the current scrub/tree boundary of the Industrial Estate (Photos 16-18). Beyond the water channel to the south the common extends at a lower level, covered in boggy grassland (Photo 11). Beyond the water channel to the southeast the ground rises again and continues as a raised ridge around the northern edge of the common, covered in scrubby ground, again thinned out through recent grass fires (Photo 12). Overhead cables on wooden poles cross in a southwest to northeast direction a short distance to the south of the barrow. The area of raised ground within the common containing the barrow, as defined by the Industrial Estate to the north and west, and water channels to the south and east defines an area approximately 2.3 hectares in size. An archaeological evaluation (Sherman 2004) found no evidence of associated archaeological activity within this area of higher, drier ground.
- 4.2.3 Despite the reduction of the surrounding vegetation the barrow remains an indistinct feature in middle range to distant views, currently most visible by the higher trees that grow within it, compared to the burnt grass surrounding it (see Photo 4 for example). The site is however visible from the northern fringes of the common to the south and southwest of the mound (Photos 3 – 6), and in intermittent views from along a short stretch of Hospital Road (Photos 5 & 19). Views from the southeast and further south down the common are interrupted by the high ground to the east of the barrow, an area of raised ground that formerly contained the early 20th century Isolation Hospital (immediately south of photo location 4) and vegetation along the water channels and generally across the common (Photos 11 & 12). There are more extensive views from footpaths that come down onto the common from higher ground to the east (Photo 10), although the mound itself is indistinguishable from the surrounding vegetation. Viewpoints within the common and surrounding area are difficult to access, and the site is likely to be little visited. There are no clear views of the site from the proposed development site due to thicker vegetation along the boundaries of the Industrial Estate and intervening industrial units to the west of the proposed development site (Photos 20, 21 & 25).

- 4.2.4 Close range views are more intact, and when evaluated (Sherman 2004) it was noted that when viewed from the north the monument stands out against the skyline, although views from other directions are more compromised by surrounding buildings and former colliery spoil heaps (Photos 1, 6-8).
- 4.2.5 Views from the monument itself (Photos 11-19) are most extensive to the south and southeast across the lower ground of the common, as far as the vegetation-lined Hospital Road. Views to the southeast and east take in the raised ground and landscaped colliery heaps, with a ridgeline visible behind. One particularly prominent feature on this ridgeline is PRN 1777w. Although not recorded as a prehistoric monument, its true nature appears to be unverified. If this represents a former Bronze Age burial mound then inter-visibility between the two is an important element of its setting. Views to the west, north and northeast are limited by the Industrial Estate boundary and modern development beyond, with the modern rooflines of industrial units being particularly prominent.

4.3 Original setting

- 4.3.1 Viewpoints, both to and from, are often considered to form an important part of the original setting of Bronze Age burial mounds. Given the location of the mound on relatively flat ground in an area of marshy ground, distant views are unlikely to have been an important part of the setting of this particular monument. It is probable that more middle and close range views formed a more crucial part of the siting and setting of this monument. The monument is outlined against the skyline when viewed from close range from the north, and may originally have been outlined against the skyline from close range in other directions but ground levels and developments to the west, north and east are likely to have altered significantly. The monument is also likely to have been more prominent and visible when viewed from areas of higher ground within the common to the south, which may include the areas of possible prehistoric enclosures (PRNs 1133w & 1134w). Viewpoints from the barrow are more extensive to the south, which may also originally have incorporated the possible enclosures. One potential specific point of inter-visibility lies between GM199 and PRN 1777w to the southeast (Photos 12-14), but it is not currently known if PRN 1777w represents a contemporary or otherwise associated monument.
- 4.3.2 As stated in the Scheduling description of the site, such monuments may have been part of a larger cluster of sites. However, an archaeological evaluation of the surrounding area in 2004 (Sherman 2004) could find no further evidence of Bronze Age activity in the surrounding area. To the south and east lies wetter marshy ground, which may have been an important feature of the ritual and funerary landscape as Bronze Age artefacts recovered from what would have been wet places are often interpreted as votive offerings, but is unlikely to have been suitable for habitation. This landscape is also likely to have extended to the north, but this area is now intensively developed as part of the Industrial Estate, and further comprised by 20th century coal mining activity in this area. It is possible that the two enclosures identified to the south (PRNs 1133w & 1134w) may be prehistoric in origin, and therefore may represent sites of potential contemporary and associated activity.

- 4.3.3 Peat deposits revealed during the archaeological evaluation may contain potential environmental information of relevance to the monument. Extensive peat deposits are indicated by previous borehole excavations throughout the area, although apparently at some depth below probable colliery waste in the area of Garngoch Industrial Estate.

4.4 *Changes to the setting*

- 4.4.1 The site was presumably an important feature of the surrounding landscape throughout much of its subsequent history, as inferred from the long running use of 'Carn Goch' in naming the local area, but is unclear whether the visibility of the monument played an important role in its prominence. This visibility has been compromised as the monument has been denuded, through the removal of its stone, and subsequent excavations and developments upon it. Stonework was removed from the cairn in the construction of local roads in the early 19th century. This was followed by excavation of the monument in the mid-19th century, and the construction of a small brick building on the site by the late 19th century. All these activities would serve to denude the visual prominence of the site.
- 4.4.2 Open common ground has been maintained to the south of the monument, albeit with possible modifications throughout the late 19th and 20th centuries for use as a rifle range and golf course. To the north and east however the open common land was compromised by the development of collieries from the late 19th century and early to mid 20th century. These collieries would have changed the landscape by introducing development and large areas of colliery waste. Significant deposits of colliery waste are indicated through historic aerial photographs of the area and through the borehole data for sites within the Industrial Estate, with aerial photographs also suggesting this includes the proposed development site. The development of the Isolation Hospital in the early 20th century on the common to the south comprised two building areas. The larger of the two is still present, the smaller one to the north has now been demolished. It has however left an area of scrub covered higher ground, that effectively impedes any inter-visibility (along with landscaped former colliery waste) between GM199 and the potential contemporary enclosures PRNs 1133w & 1134w.
- 4.4.3 More recently the development of the Industrial Estate to the west and north has separated the monument from any associations with views or features to the north, and provides a visual backdrop to the site when viewed across the open ground to the south.

4.5 *Other factors*

- 4.5.1 No further historic, artistic, literary or scenic associations, intellectual relationships or non-visual factors forming part of the setting have been identified.

4.6 *Summary*

- 4.6.1 The elements of the setting of the Garn Goch Round Barrow (GM199) outlined above can be summarised as followed:

- Present setting – surrounding raised ground, bounded by water courses and industrial estate boundary
- Present setting – views southwest to south from the monument over the common
- Present setting – views north and northeast toward the monument from within the northern part of the common and along part of Hospital Road
- Original setting – views of the monument from the north and south
- Original setting – views from the monument southward, potential associations with PRNs 1133w & 1134w
- Original setting – potential inter-visibility with PRN 1777w to the ESE
- Original setting – environmental evidence contained within peat deposits
- Changes in setting – focal point within the common

5 Stage 3: Evaluation of the Potential Impact of Change/Development.

- 5.1 The proposed development comprises plans for a new cold storage unit with associated engineering and drainage works, not only to supply the proposed unit, but also to allow scope for a future unit (Figures 7 & 8).
- 5.2 The proposed layout will focus around a single building, located centrally with surrounding areas segregated for specific purposes. To the north of the building will be a car parking area and main pedestrian access. To the east will be vehicular access, for the car park to the north and for access to a service and delivery yard to the south of the building. To the west will be a grass-covered landscaped area, bounded by trees. A water storage area will be sited in the site's south western corner, which will capture surface water drainage that will be discharged into nearby watercourses at a controlled rate.
- 5.3 The single building will have a footprint of 1420m², and up to two-storeys high. The walls will be a mix of blue multi facing brick with dark mortar and grey corrugated steel cladding, with grey aluminium glazing units, and a single-ply flat membrane roof.
- 5.4 The immediate setting of GM199, comprising the raised area of land defined by a watercourse and the Industrial Estate boundary, will not be directly affected by the proposed development.
- 5.5 The proposed development design is in keeping with much of the surrounding Industrial Estate development, both in appearance and scale. Similar structures lie immediately to the west, and on slightly higher ground to the north. Therefore, when viewed from the south the proposed development will form part of an existing view of modern industrial estate buildings, and given the relative heights and scale of these surrounding buildings it will not significantly increase the visual or other sensorial impact of the industrial estate. The edge of the common is bounded by high dense scrub, although this can change, this area has survived recent grass fires and unlikely to alter without deliberate clearance. As such it would appear unlikely that the proposed development would affect the current visual and other sensorial impression of

- GM199 when viewed from the common and potential prehistoric enclosures within the common.
- 5.6 The location of the proposed development will not interrupt access to, or viewpoints of GM199. There is no direct line of sight from the proposed development area to GM199. This is due to the presence of the large building to the west of the proposed development, dense scrub along the fringes of the common, and lack of viewpoints from the northeast and east. Even with extensive scrub clearance along the fringes of the common (not part of the part of the proposed development) GM199 is likely to be an indistinct feature when viewed from the southern edge of the proposed development area. The main views of GM199 are from the south and southwest. Views from the south are unaffected as stated in 5.4, views from the southwest may include partial elements of the proposed building to be visible to the rear of the monument. Again however, existing industrial units and dense scrub will significantly reduce this visual impact.
- 5.7 Views from GM199 itself are more extensive south across the common, with views of the ridgeline to the southeast potentially also important. Views north, northwest and northeast are limited by modern development and dense scrub. The main views from the monument will be unaffected by the proposed development. As stated above, there is the potential the proposed development will intrude into views to the north-northeast, although intervening structures and scrub will limit the visibility of the development, and there are no significant current or historical views have been identified in that direction.
- 5.8 The building will be in operation between the hours of 8:00 to 18:00 during the working week, and will therefore not significantly increase the aural impact, or lighting on the setting of GM199. The main aural impact noted during the site visit was from traffic along Hospital Road to the southwest, which is unlikely to change as a result of the proposed development.
- 5.9 There is likely to be an increased cumulative impact from the addition of the proposed development to the Industrial Estate, and the potential that this may lead to further development along the south side of Phoenix Way. However, for the reasons stated in 5.4 the cumulative impacts of the addition to the Industrial Estate are not considered to be significant. If further development were to occur, the impact of this could be varied dependent on the placing and scale (development to the west likely to have greater impact, or development taller in scale) and associated works (changes to the power lines or drainage to the south of GM199).
- 5.10 The area of proposed development has clearly been disturbed, this was evident during the site visit. The area is also currently demarcated by existing tarmac road, and borehole data and aerial photographs suggests there may be significant deposits of colliery waste in this area. There is the potential for peat deposits to contain environmental evidence of relevance to the setting of GM199, but again borehole evidence suggests these peat deposits are deeply buried in this area, and at some distance from GM199, making direct associations with the barrow difficult. There is also the potential for peat deposits beyond the proposed development site to be affected by changes in hydrology through further development in this area by potential changing the amount and manner of rainwater dispersal.

- 5.11 In summary the main potential negative impacts of the proposed development on the setting of Garn Goch Round Barrow GM199 are through increasing a sense of modern development surrounding the monument to the north and northeast, affecting views from the monument when viewed from the west/southwest and views from the monument to the ENE, and potentially affecting peat deposits that may be associated with part of its original setting. However, the scale and appearance of the proposed development will be in keeping with the current development of the Industrial Estate and will not significantly increase the visual impact of this modern backdrop to the site, and will not affect important views of or from the monument, or access to and from the monument. Similarly, peat deposits on the site are anticipated to be deeply buried, and rainwater will be returned to local watercourse, therefore this suggests the impact of the proposed development is considered to be a Very Slight negative impact.

6 Stage 4: Mitigation Options.

- 6.1 As the scale and design of the proposed development is already considered to be in keeping with the Garngoch Industrial Estate and not considered to have a significant visual impact upon the setting of GM199, no related mitigation measures are suggested.
- 6.2 The area around GM199 has been assessed for archaeological potential already, and found to be negative, therefore no further archaeological mitigation measures are suggested for the proposed development site, which lies further from the monument.
- 6.3 The site is currently relatively inaccessible, where once it may have been accessible from Phoenix Way. It may therefore be beneficial to include some accessibility to the site within the scheme, however as a private development this may not be possible or practical.

7 Conclusions

- 7.1 This report assesses the impact of the proposed development upon the site and setting of Scheduled Ancient Monument GM199, which lies in proximity to the proposed development site. This impact has been assessed using the guidance and methodology outlined in the 'Setting of Heritage Assets in Wales' (Cadw 2017), which outlines a four stage approach.
- 7.2 Stage 1 identifies the historic assets. Through consultation with Cadw and research into historic assets in the vicinity this study is primarily concerned with Scheduled Ancient Monument GM199 (Garn Goch Round Barrow). This comprises the remains of a round barrow, a funerary and ritual site dating the Bronze Age. The site is a grass covered mound, 29.9m in diameter and up to 1.7m high, excavations in 1855 uncovered the remains of a number of associated cremation burials. No further associated archaeological remains have been recorded in the vicinity of this monument, although two enclosures (PRNs 1133w & 1134w) lying between 530m and 730m to the south may be prehistoric in date, and potentially contemporary, and a further feature (PRN 1777w) on a ridgeline to the east may also have visual links to the barrow.

- 7.3 Stage 2 defines and analyses the setting of the archaeological site. The main elements of the present setting of the monument include its location on an area of raised, drier ground, surrounded by ditches to the south and east with wetter ground beyond, and modern development to the north and west. The current setting also incorporates views southward from the monument and from immediately north of the monument, looking out over the common, and similarly views north and north-easterly from the common (and intermittently Hospital Road) toward the monument. There is a potentially important inter-visibility with PRN 1777w occupying a prominent position on a ridgeline to the ESE. Similar viewpoints would have been some of the main elements of the original setting, including views of the monument from the south and the north, and views from the monument southward. Its location may suggest short to medium range views were more significant to this particular barrow. Archaeological evaluation of the surrounding area could find no evidence of further Bronze Age activity in the immediate vicinity of the barrow, although there may have been associated activity in two enclosures on the common to the south (PRNs 1133w & 1134w). Potential environmental evidence contained in peat deposits may prove to be important elements to the setting. The barrow remained an important focal point within the subsequent use of the common, although it has become denuded in scale and significance throughout the 20th century, with the impacts of coal mining activity and the development of the Industrial Estate affecting the landscape to the north and east and limiting potential viewpoints.
- 7.4 Stage 3 evaluates the potential impact of the proposed development. This development comprises plans for a new cold storage unit with associated engineering and drainage works, the building being two-storey high and covering a footprint of 1420m², surrounded by hardstanding and landscaped areas. It will occupy an area of rough disturbed land, surrounded to the north and west by modern development, and bordered to the south and east by common. Due to its location and the scale of surrounding development it is not considered to add significantly to the visual and other sensorial impact of the Industrial Estate when viewed from the south looking towards GM199. The proposed development will also not affect viewpoints of or from, or access to and from, GM199, with the exception of views from the west/southwest both towards and from GM199. However, the positioning and scale of development, and intervening development and scrub cover, significantly reduces this potential impact. Given the disturbed nature of the ground within the proposed development area and borehole results suggesting a significant depth of colliery waste, it is unlikely development works will affect potential archaeological deposits associated with the GM199, although there remains the potential that peat deposits may be uncovered, again however, they will be at some distance from GM199 and unlikely to be directly relevant. The negative impact of the proposed development on the setting of GM199 is therefore considered to be Very Slight.
- 7.5 Stage 4 suggests mitigation options associated with the proposed development. However, no further mitigation options are considered to reduce the impact. It is suggested that a potential beneficial impact would be to facilitate renewed access to the site, but it is acknowledged that this may not be possible or practical within the design scheme.

8 Sources

- Arch.Camb 1955 'Evening Meeting' in *Archaeologia Cambrensis*, 3rd series, No.IV, pp297-8
- Cadw 2017 *Setting of Historic Assets in Wales*
- Chartered Institute for Archaeologists 2014 *Standards and Guidance for Archaeological Desk-Based Assessment*
- Evans, EM 2001 *Prehistoric Funerary and Ritual Sites Survey* Glamorgan-Gwent
Archaeological Trust Report No.2002/054
- Historic England 2015 *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning*
- ICOMOS 2011 *Guidance on Heritage Impact Assessment for Cultural Heritage World Heritage Properties.*
- Morgan, W LI 1899 *An antiquarian survey of East Gower*
- RCAHMW 1976 *An Inventory of the Ancient Monuments of Glamorgan, Vol.II. Pre-Norman*
- Sherman, A 2004 *Garn Goch Industrial Estate, Swansea: archaeological field evaluation*
Glamorgan-Gwent Archaeological Trust Report No.2004/082
- Stanley W.O & Way, A 1868 'Ancient Internments in Sepulchral Urns found in Anglesey and North Wales' in *Archaeologia Cambrensis*, 3rd series, No.LV, pp252-293

Maps

- Anon 1841 *Llangevelach Tithe Map & Apportionments*
- Anon 1841 *Loughor Tithe Map & Apportionments*
- British Geological Survey 2018 *Geology of Britain Viewer* - (accessed 20/07/18)
- Budgen, T 1813 *Ordnance Survey Original Surveyors' Drawings, Swansea*
- Ordnance Survey 1880 *1st edition 1:2500 map, Glamorganshire*
- Ordnance Survey 1898 *2nd edition 1:2500 map, Glamorganshire*
- Ordnance Survey 1916 *3rd edition 1:2500 map, Glamorganshire*
- Ordnance Survey 1935 *1:2500 map, Glamorganshire*
- Ordnance Survey 1958 *1:2500 plan*
- Ordnance Survey 1969-71 *1:2500 plan*

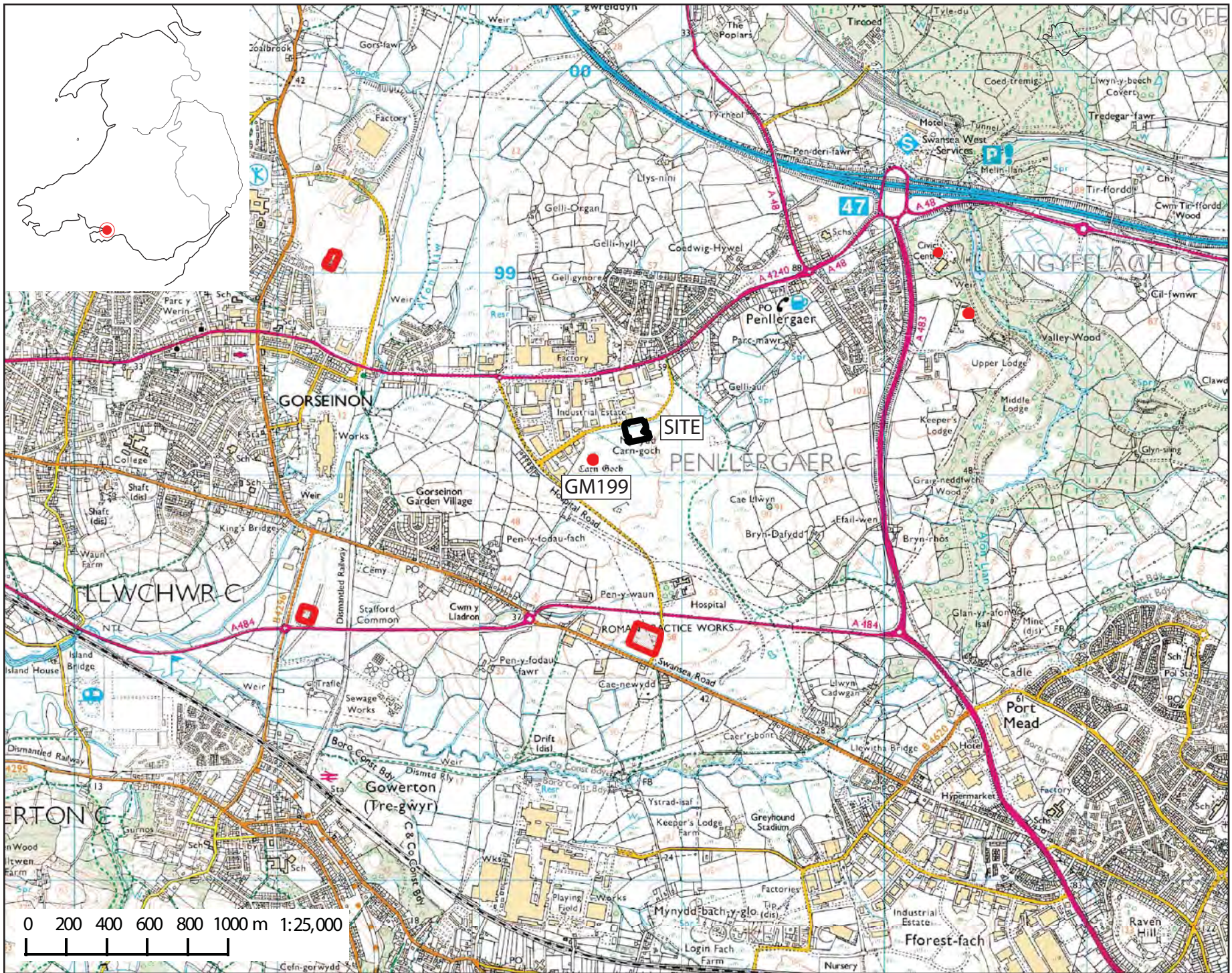


Figure 1: Location plan, 1:25,000 @ A4

The Ordnance Survey has granted Archaeology Wales Ltd a Copyright Licence (No. 10005111) to reproduce map information; Copyright remains otherwise with the Ordnance Survey



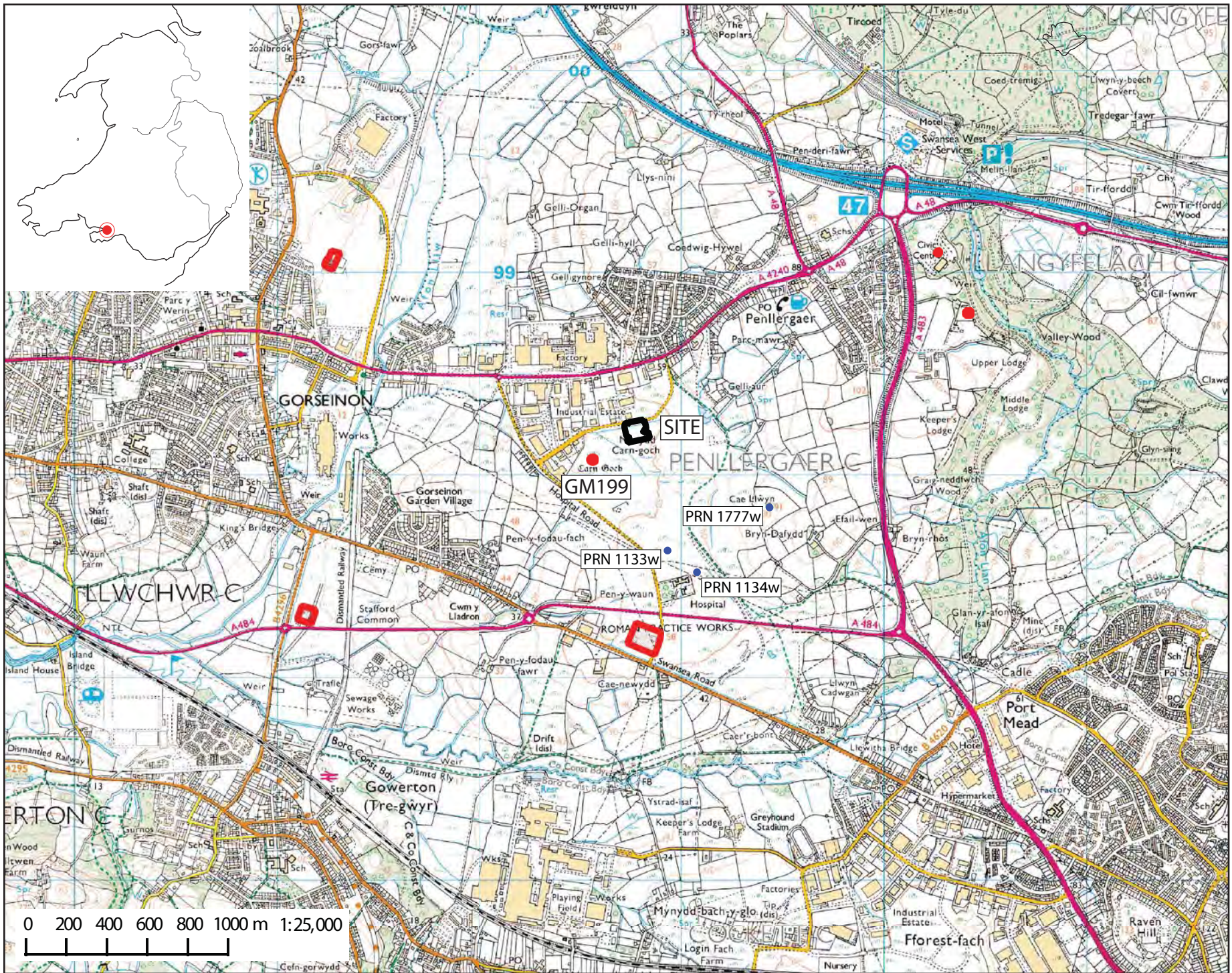


Figure 2: Map showing the location of the site and GM199. Further SAMs surrounding the site are also shown, 1:25,000 @ A4

The Ordnance Survey has granted Archaeology Wales Ltd a Copyright Licence (No. 100055111) to reproduce map information; Copyright remains otherwise with the Ordnance Survey



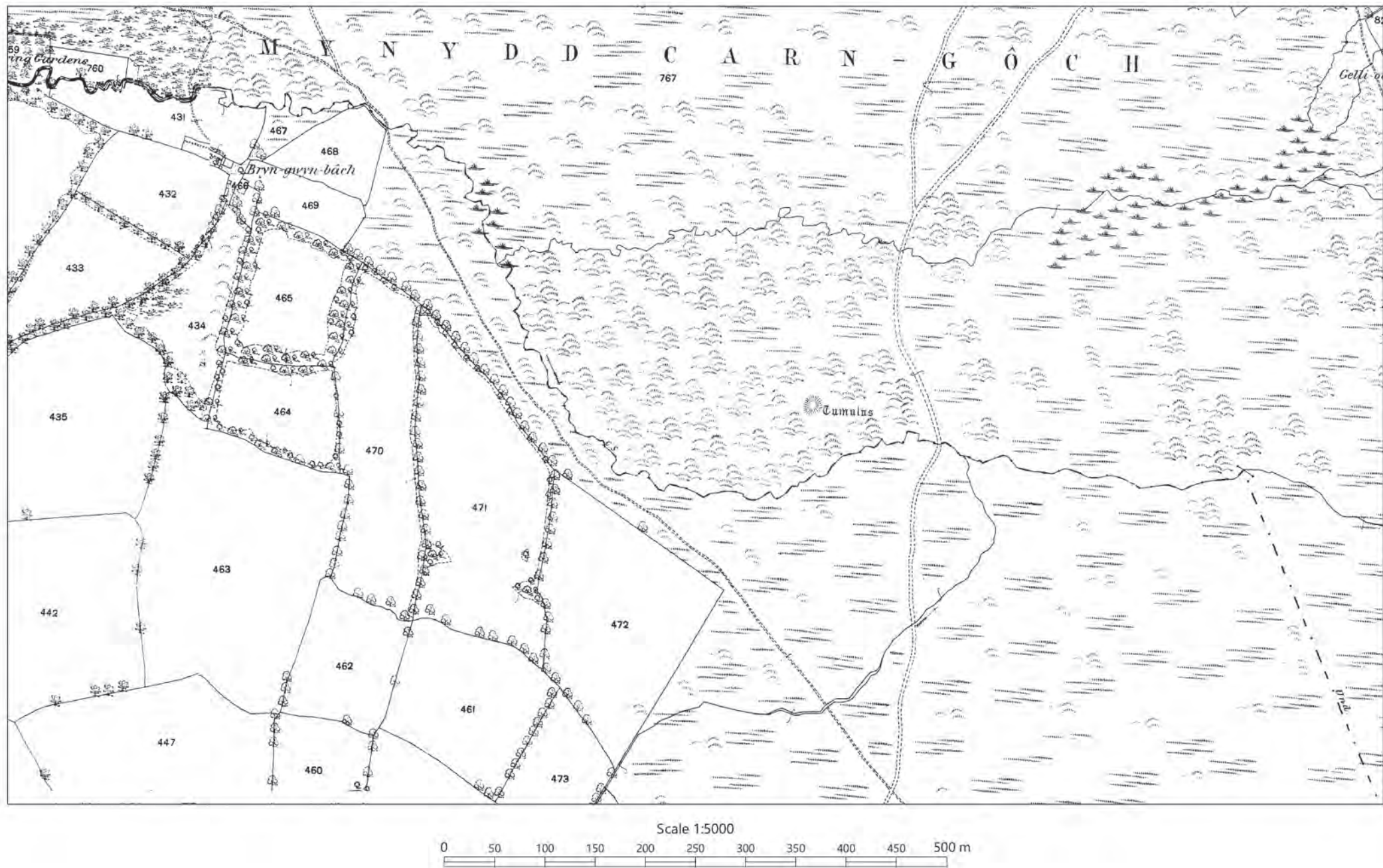


Figure 3: An extract from the First Edition Ordnance Survey Map of 1880, showing Garn Goch Round Barrow.



Figure 4: Aerial photograph taken by the RAF, 1946. GM199 highlighted.



Figure 5: Aerial photograph taken by Meridian, 1970. GM199 highlighted.

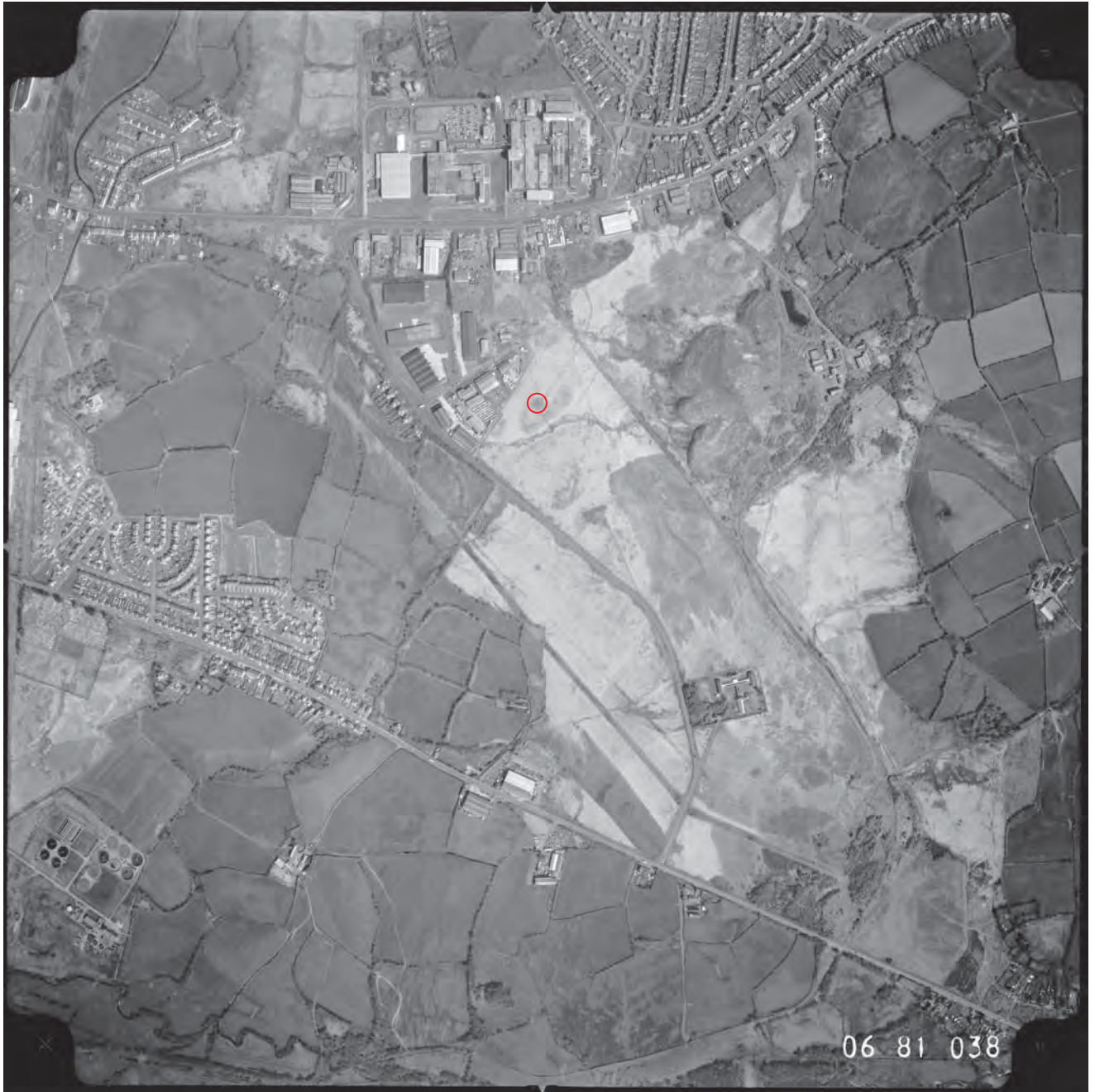


Figure 6: Aerial photograph taken by Meridian, 1981. GM199 highlighted.

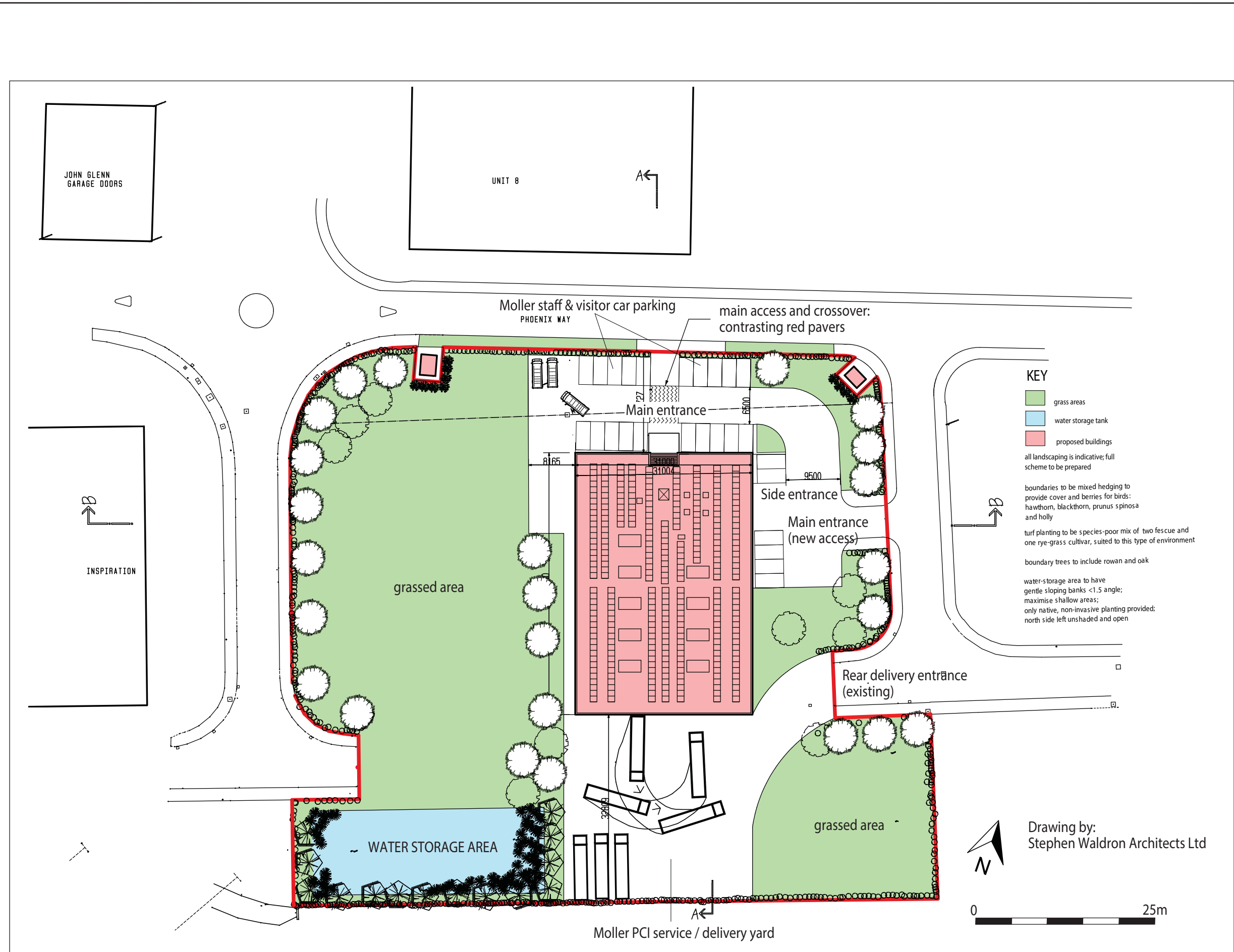


Figure 7.
Plan of the proposed development

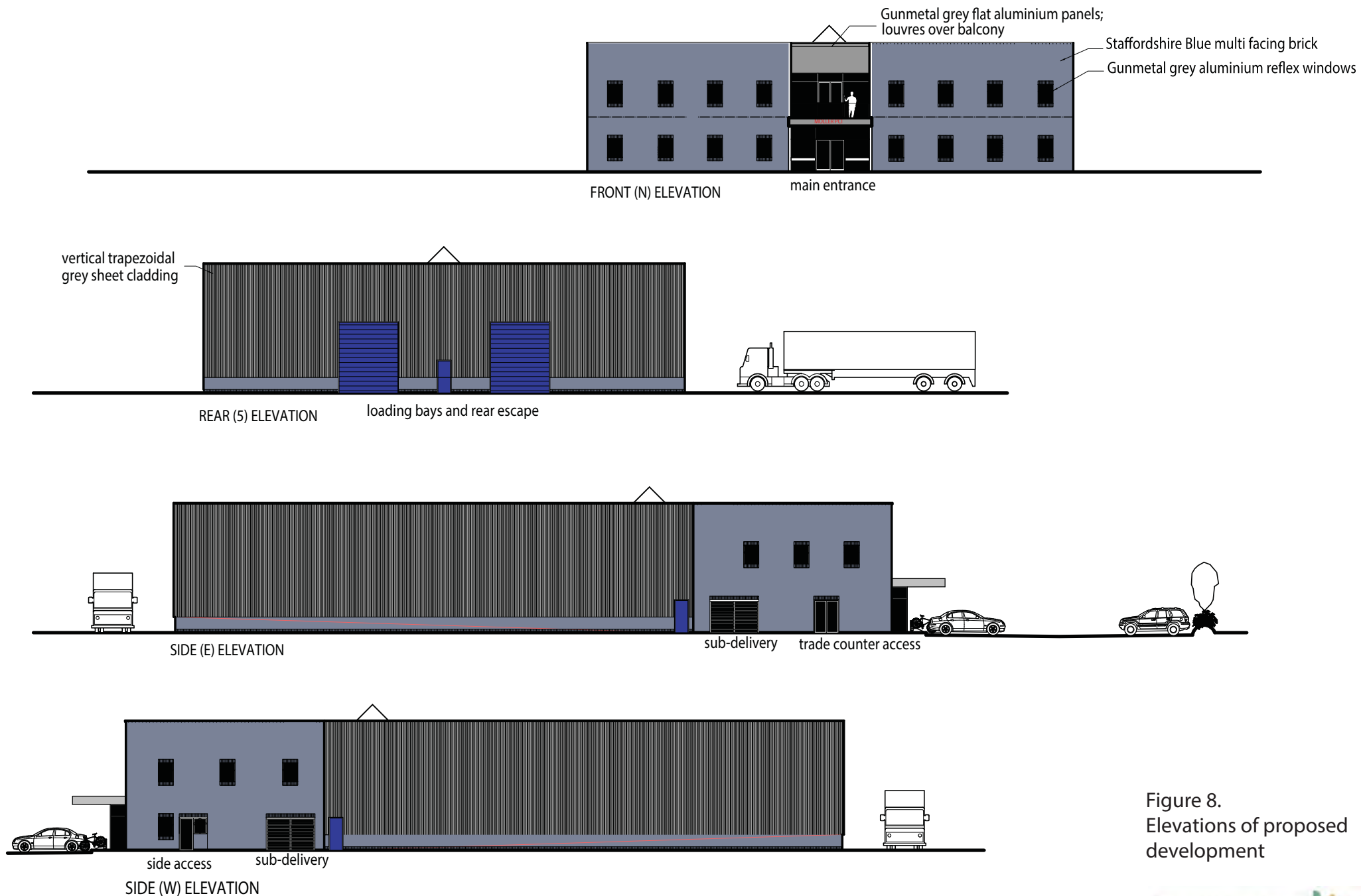


Figure 8.
Elevations of proposed development

Drawings by:
Stephen Waldron Architects Ltd

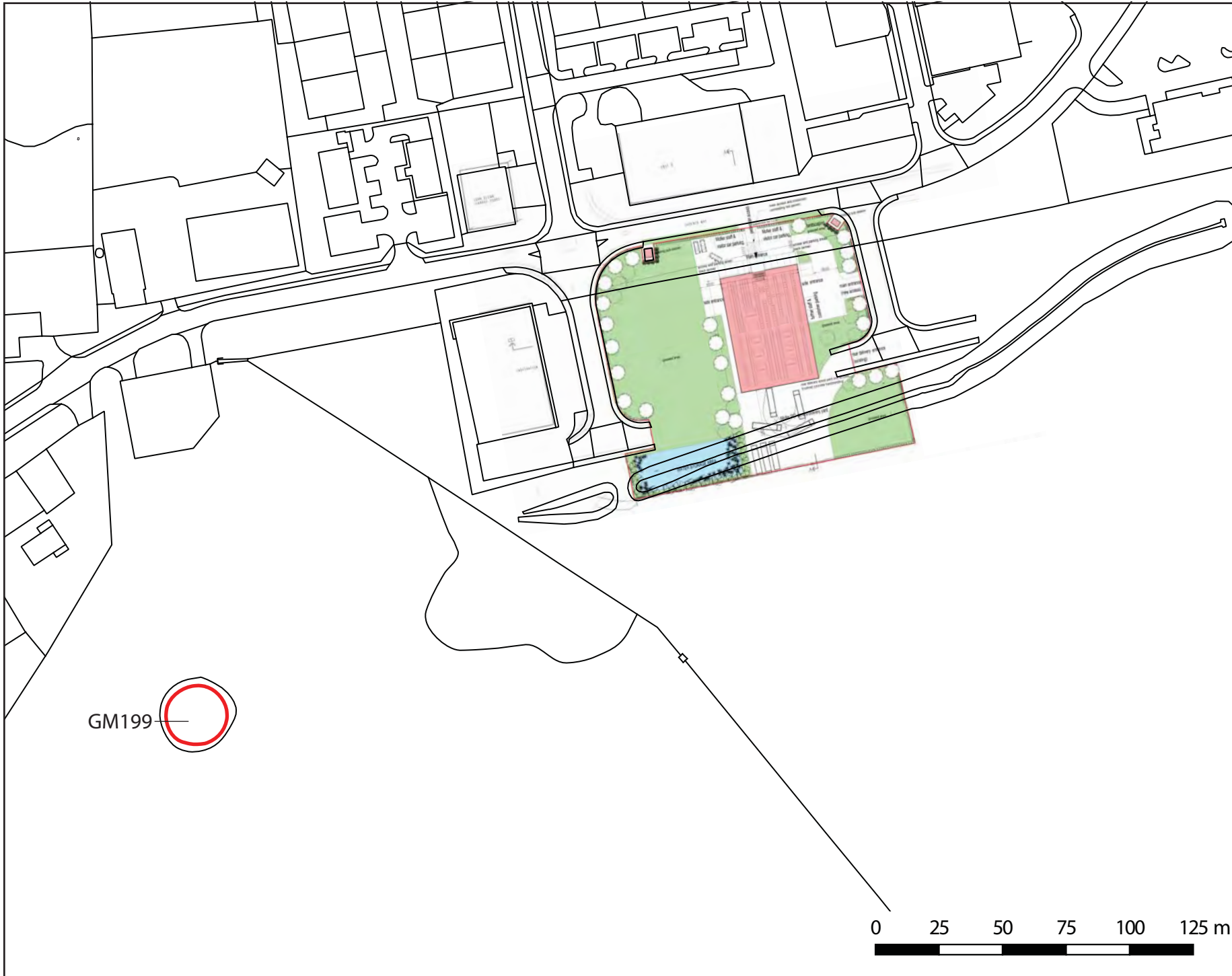


Figure 9: Proposed site development plan overlaid on current map data, illustrating relationship to SAM GM199
 1:2000 @ A4

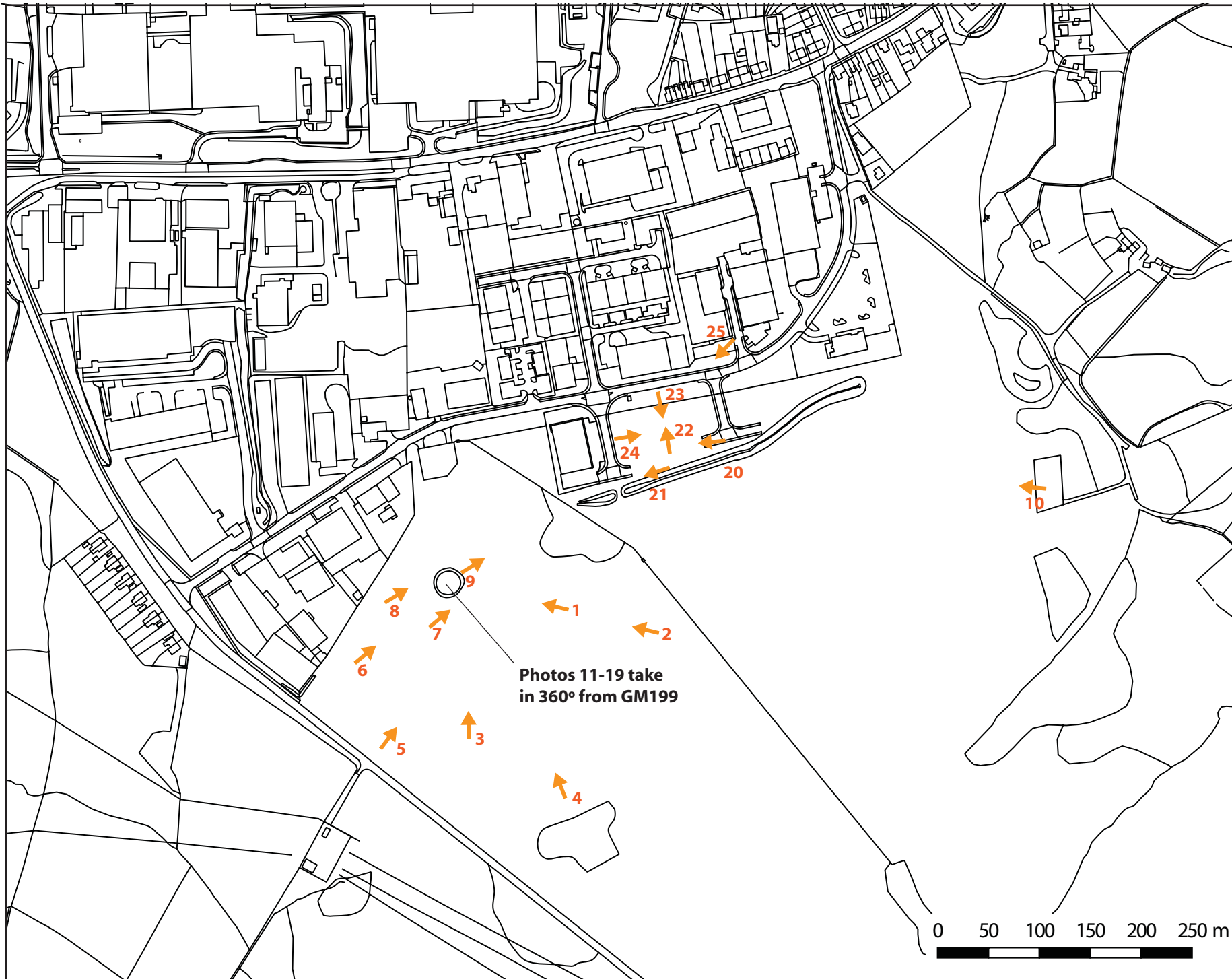


Figure 10: Photo location and direction plan. 1:5000 @ A4



Photo 1: View WNW towards GM199 (between arrows). Taken from an areas of high ground to the east of GM199, separated by a water channel. Industrial Estate buildings visible to the rear.



Photo 2: As above, view WNW towards GM199 (between arrows).



Photo 3: View north towards GM199 (red arrow) from lower-lying open ground to the south. The proposed development site lies to the right (blue arrow). Damage from grass fires visible in the foreground.



Photo 4: View NNW towards GM199 across lower-lying open ground to the south. The monument itself is now indistinct amongst the general scrub (arrow). Elements of the industrial estate are visible to the rear, the rising ground to the right is largely landscaped colliery waste.



Photo 5: View northeast towards GM199 (arrow) from near to Hospital Road, replicating view from the roadside (if cleared of vegetation) towards the monument with the proposed development site beyond.



Photo 6: View northeast in closer proximity to, and toward, GM199 (between red arrows), proposed development site lies beyond (blue arrow).



Photo 7: View northeast past the southern edge of GM199 (tree/scrub covered raised area from centre to left of shot) towards proposed development (blue arrow). Existing unit immediately west of proposed development is visible.



Photo 8: View ENE past northern edge of GM199 (tree/scrub covered raised area from centre to right of shot) towards proposed development (blue arrow). Existing unit immediately west of proposed development is visible.



Photo 9: View ENE from east side of GM199 towards proposed development (blue arrow), showing location and visibility of existing unit immediately west of proposed development and scrub boundary.



Photo 10: View west towards the proposed development site (blue arrow) in front of the existing unit. Shot taken from high ground to the east, and area of public footpaths and general access onto the common. GM199 is indistinguishable beyond the tree line.



Photo 11: Views from GM199, looking south across the lower ground of the common. The line of Hospital Road is marked by bushes beyond the line of telegraph posts.



Photo 12: Views from GM199, looking southeast across raised ground (largely landscaped colliery waste) around the northern edge of the common. Ridgeline visible to the rear may be of significance, PRN 1777w lies on the crest of the ridge (arrow).



Photo 13: As above, zoomed view. Looking ESE from GM199 towards Cae Llwyn PRN 1777w, marked by trees.



Photo 14: Views from GM199, looking east across raised ground around the northern edge of the common. The ridgeline containing PRN 1777w is visible to the rear, denser areas of scrub along the edge of the common visible to the left.



Photo 15: Views from GM199, looking northeast, taking in proposed development site (arrow).



Photo 16: Views from GM199, looking north. Boundary of the Industrial Estate marked by tree line.



Photo 17: Views from GM199, looking northwest with the Industrial Estate visible.



Photo 18: Views from GM199, looking west. Boundary of the Industrial Estate marked by tree line.



Photo 19: Views from GM199, looking southwest. The line of Hospital Road lies just beyond the sporadic trees from centre to left of shot, the trees to the right marked the boundary of the Industrial Estate.



Photo 20: View WSW across southern edge of proposed development site towards GM199, showing the intervening vegetation and adjacent unit blocking views.



Photo 21: View WSW from the southern edge of the proposed development area, looking towards GM199, not visible beyond the undergrowth.



Photo 22: View north across the proposed development area, showing industrial units on the north side of Phoenix Way and also showing the disturbed ground within the proposed development area.



Photo 23: View south across the proposed development area. Garn Goch Common lies beyond the high scrub.



Photo 24: View east across the proposed development area.



Photo 25: View southwest from raised car parking on the north side of Phoenix Way, looking across the proposed development area towards GM199 (not visible beyond the adjacent industrial unit and high scrub).

Archaeology Wales

Archaeology Wales Limited

The Reading Room, Town Hall, Great Oak Street,
Llanidloes, Powys SY18 6BN

Tel: +44 (0) 1686 440371

Email: admin@arch-wales.co.uk

Company Directors: Mark Houlston MIFA & Jill Houlston
Company Registered No. 7440770 (England & Wales).
Registered office: Morgan Griffiths LLP, Cross Chambers,
9 High Street, Newtown, Powys, SY16 2NY