

LAND AT BENEATHWAY FARM DOBWALLS & TREWIDLAND CORNWALL

Results of a Desk-Based Assessment, Geophysical Survey
and Heritage Impact Appraisal



South West Archaeology Ltd. report no. 170608



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Land at Beneathway Farm, Dobwalls, Cornwall Results of a Desk-Based Assessment, Geophysical Survey & Heritage Impact Appraisal

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Report Version: FINAL
8th June 2017

Work undertaken by SWARCH for Ben Pearce of Pearce Fine Homes Limited

Summary

This report presents the results of a desk-based assessment and geophysical survey carried out by South West Archaeology Ltd. (SWARCH) for land at Beneathway Farm, Dobwalls, Cornwall, in advance of a planning application.

The site is located in the angle between the Cornish Main Line, the former A396 and the settlement of Dobwalls, on land associated with a settlement first recorded in the 14th century, Beneathway. The HLC characterises this land as medieval farmland, which is normally accorded a high potential for Prehistoric and Romano-British remains; however, no firm evidence for Prehistoric or Romano-British activity has been reported within 1km of the site, including during the works associated with the Dobwalls bypass.

The site inspection failed to identify significant archaeological remains within the area of the development. The geophysical survey identified a probable historic field boundary and probable undated ditches/land drains, most likely associated with drainage of the field system post enclosure. The geophysical survey was inconclusive for most of the site, which had been disturbed and/or subject to the deposition of ferrous debris, which will have masked most responses. A modern service associated with the houses to the east of the site was identified at the north end of the western field.

The debris masking much of the site means the archaeological potential of the site is unproven; however, for those areas where the geophysical survey worked, and taking into consideration the recorded heritage assets in the wider area, the archaeological potential of the site is low to medium. Based on the results of the walkover and geophysical surveys, further archaeological works on this site are unlikely to add additional detail to the archaeological record.



June 2017

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ACKNOWLEDGEMENTS

BEN PEARCE OF PEARCE FINE HOMES LTD (THE CLIENT)
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1.0 INTRODUCTION

Location:	Land at Beneathway Farm, Dobwalls
Parish:	Dobwalls & Trewidland CP
County:	Cornwall
NGR:	SX 20850 64880
Planning no.	PA17/01564
SWARCH ref.	DBF17

1.1 PROJECT BACKGROUND

South West Archaeology Ltd. (SWARCH) was commissioned by Ben Pearce of Pearce Fine Homes Ltd (the Client) to undertake a desk-based assessment, geophysical survey and heritage impact appraisal for land at Beneathway Farm, Dobwalls and Trewidland, Cornwall, as part of the pre-application requirements for a proposed residential development. This work was undertaken in accordance with best practice and ClfA guidelines.

1.2 TOPOGRAPHICAL AND GEOLOGICAL BACKGROUND

The site is located in the angle between the Cornish Main Line, the former A396, and the settlement of Dobwalls. The site is comprised of parts of three fields on a south-west-facing slope at an altitude of c.115-130m AOD. The fields are to the west-north-west of Beneathway Farm (Figure 1). The soils of this area are the well-drained fine loamy and fine silty soils of the Denbigh 1 Association (SSEW 1983), which overlie the slatestones and siltstones of the Saltash Formation (BGS 2017).

1.3 HISTORICAL BACKGROUND

The modern parish of Dobwalls and Trewidland originally sat within the historic parish of Liskeard, in the deanery and Hundred of West (Lysons 1814). The settlement of Dobwalls was first named in the early 17th century and to its south-west was the 14th century settlement of Beneathway, which was part of the Duchy lands from the 14th century. Beneathway literally means 'the place beneath the way' referring to the road to its north. What now survives as Beneathway Farm was in 1840 recorded as *Little Beneathway*. The relatively modern developments of the Cornwall Railway and expansion of Dobwalls have encroached on- and form most of the boundaries of the site.

1.4 ARCHAEOLOGICAL BACKGROUND

There has been some archaeological investigation in the local area, as it falls within the development corridor assessed for the Dobwalls bypass, which revealed relict field boundaries, a possible Prehistoric fieldsystem close to the site and a Bronze Age pit c.2km to the east (CAU 1993; ADS ; and HER references: ECO3364, ECO3907 and HES report reference: ER1335; Thorpe 2013).

The Cornwall and Scilly HER only records evidence for human activity in the surrounding area from the medieval to the post-medieval period; however, the Cornwall and Scilly HLC characterises this area as *medieval farmland: the agricultural heartland, with farming settlements documented before the 17th century AD and whose field patterns are morphologically distinct from the generally straight-sided fields of later enclosure. Either medieval or Prehistoric origins.* AEL is generally regarded as having a high potential for Prehistoric and Romano-British remains.

1.5 METHODOLOGY

This work was undertaken in accordance with best practice. The desk-based assessment follows the guidance as outlined in: *Standard and Guidance for Archaeological Desk-Based Assessment* (CIfA 2014a) and *Understanding Place: historic area assessments in a planning and development context* (English Heritage 2012). The gradiometer survey follows the general guidance as outlined in: *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008) and *Standard and Guidance for Archaeological Geophysical Survey* (CIfA 2014b).



Figure 1: Site location (the site is indicated).

2.0 DESK-BASED ASSESSMENT

2.1 DOCUMENTARY HISTORY

Dobwalls is currently in the civil parish of Dobwalls and Trewidland. However, prior to c.1974 it was one of the larger villages in the parish of Liskeard in the hundred and deanery of West (Lysons 1814), approximately half way between Bodmin and Plymouth. The manor of Liskeard (*Liscarret* in Domesday) was held by Mærle-Sveinn prior to 1066 and was worth c.£8; and in 1086 was held by the Count of Mortain and was worth just under £26 (Williams and Martin 2002). The manor was subsequently held by the Earls of Cornwall until it was annexed in the 14th century to the Duchy of Cornwall (Lysons 1814).

Dobwalls is first named as *Dobwalls* or *Hogswall* in 1607 and means ‘Dobb’s walls or ruins’ from the modern English, *wall* and a possible 14th-16th century personal name, *Dobbe* (Watts 2004). The village contains the Grade II Listed Church of St Peter, established in 1839, with a chapel of ease (List Entry No.1136546). The settlement of Beneathway is on the south-west edge of Dobwalls. Beneathway was first recorded in 1302 and literally means ‘the place beneath the way/track’ (HER no.10284), presumably referring to the highway running through Dobwalls, upslope and to the north of Beneathway, between Liskeard and Bodmin. The c.1840 tithe apportionment shows a *Great* and *Little Beneathway*; the 1649×50 Parliamentary survey of the Duchy records a messuage at *Beneathway* divided into three moieties between John Score, Richard Score and John Coyer, William Robbins holding $\frac{1}{2}$ of the moiety of Richard Score (Pounds 1982, 85). This would indicate Beneathway was once a medieval hamlet, which over time shrank to a single farm. The tithe apportionment shows that Nicholas Quiller held *Little Beneathway* and most of the land comprising the site in 1840. A lease of 1731 mentions a Dorcas Quiller (widow), who held *Beneathway* from William Chappell, son of Titus Chappell who had held the lease previously (CRO: SHM/961 & HENDCOODE/47). Prior to this, the 1778 will of Philip Leach (Rector of Boconnoc) indicates that he had held *Twelwood* (*Twelwewood*) and *Beneathway*, having purchased them from a John Trehawke (CRO: TF/2591). *Beneathway* was tenanted by John Trehawke of Straysland and Beneathway from Nicholas Oliver and Thomas Cosen in 1707 (CRO: BK/318).

2.2 CARTOGRAPHIC DEVELOPMENT



FIGURE 2: EXTRACT FROM THE 1803 OS SURVEYOR'S DRAFT MAP; THE SITE IS INDICATED (BL).

The site can be identified on the OS surveyor's draft map for the Liskeard area of 1803 (Figure 2). *Beneath Way* is depicted as comprising structures to the south-east of the site and perhaps the structures in the approximate location of the current *Beneathway Farm*. A route-way is shown as South West Archaeology Ltd.

extending into the site and forming the approximate east-west internal boundary as shown on later mapping. Dobwalls proper is shown to the east of the cross-roads labelled *Five Lanes* and no railway line that would form the current southern boundary is shown. The fine detail of these early drafts can often be vague but the general field-scape, road layout and settlement locations/existence are usually reliable.

The earliest accurate cartographic source available to this study is the Liskeard tithe map of 1840 (Figure 3 Dobwalls is shown to have extended to the cross-roads to the north-east of the site. It depicts the western field of the site as having been divided into three fields (455, 474 and 475) with a track-way along an east-west boundary and a north-south boundary dividing the southern half of the field in two. The south-east field of the site is also shown as having been divided in to two fields by an approximate north-south boundary (plots 472 and 473). These north-south aligned boundaries that divide the southern half of the site appear to be very straight and form post-medieval strip-fields (plots 472-475). Some of the curving boundaries visible in the surrounding field-scape are indicative of medieval strip-fields. The plots that comprise the site are listed on the tithe apportionment as parts of *Jago's Dobwalls and part of Five Lanes* (plots 455 and 473) and *Little Beneathway* (plots 456, 472, 474 and 475), owned by William Hodge Esq. and Nicholas Quiller, respectively with the former portions being tenanted by a George Blewett. All of these plots had prosaic names, indicative of location or shape, although *Home Ham Park* and *Outer Ham Park* (plots 474 and 475) may refer to live-stock (pigs) or proximity to a homestead based on a possible Anglo-Saxon element, *ham*. All of these fields were under arable cultivation and were probable subject to a degree of ploughing. The intermixed landownership may indicate an enclosed medieval open field system.

TABLE 1: EXTRACT FROM THE TITHE APPORTIONMENT FOR LISKEARD (SEE FIGURE 3).

Number	Landowner	Tenant	Field Name	Cultivation
Twelvewood				
138	Edmund Wills	Edmund Wills	Back Meadow	Arable
139			Quarry Park	Arable
476			Underway	Arable
Jago's Dobwalls and part of Five Lanes				
455	William Hodge Esq.	George Blewett	Higher Long Park	Arable
473			Lower Long Park	Arable
Little Beneathway				
456	Nicholas Quiller	Nicholas Quiller	Long park	Arable
457			Little Meadow	Arable
458			Slad Park	Arable
465			Higher Orchard	Orchard
466			Lower Orchard	Orchard
467			Homestead	-
468			Lower Meadow	Meadow
469			Garden	Garden
472			Under Town	Arable
474			Home Ham Park	Arable
475			Outer Ham Park	Arable
Great Beneathway				
459	John & William Stephens	John Stephens	Little Bove Town	Arable
464			Garden	Garden
470			Little Undertown	Arable
471			Great Undertown	Arable

The Ordnance Survey (OS) 1st edition from the 1880's shows relatively continuity across the site and in the wider landscape with the 1840's tithe map; however, the imposition of the *Great Western Railway* line to the south of Beneathway forms the extant southern boundary of the site. Also of note is the labelling of a quarry to the east of the site between *Little Beneath Way* and *Beneathway*. A structure is now also depicted just beyond the eastern boundary of the site, associated with *Little Beneath Way* as was shown on the 1840's mapping. The 1907 2nd edition OS mapping shows relative continuity with the first edition, although some boundaries have been removed from the wider area and in the south-west of the site.

Land at Beneathway Farm, Dobwalls & Trewidland, Cornwall



FIGURE 5: EXTRACT FROM THE 2ND EDITION 6" OS MAP, SURVEYED 1905 PUBLISHED 1907; THE SITE IS INDICATED (CRO). CORNWALL SHEET XXXV.NE.

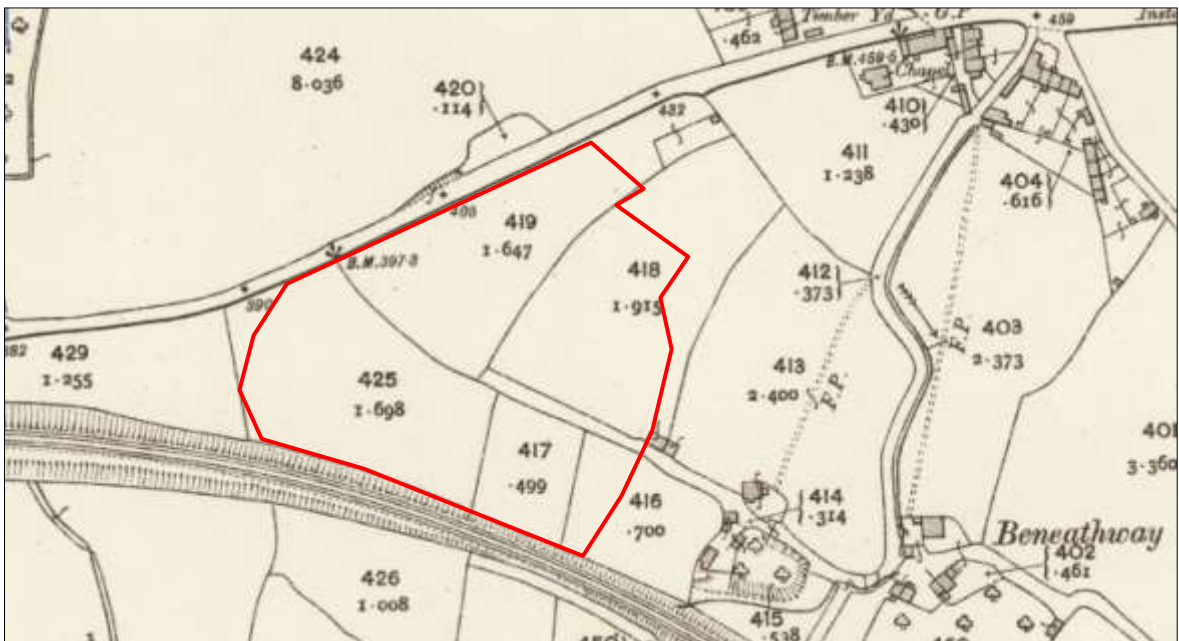


FIGURE 6: EXTRACT FROM THE 2ND EDITION 25" OS MAP, SURVEYED 1905 PUBLISHED 1907; THE SITE IS INDICATED (CRO). CORNWALL SHEET XXXV.8.

3.0 ARCHAEOLOGICAL BACKGROUND

There has been some archaeological investigation in the local area. The site falls within the corridor assessed during the planning of the Dobwalls bypass (CAU 1993), and magnetic susceptibility and magnetometry surveys indicated the presence of a relict fieldsystem (Stratascan 2004). Design strategies and cultural heritage assessments were prepared for the bypass (Interserve 2004), and an excavation and watching brief was conducted by AC Archaeology during construction (HER ECO3364, ECO3907). Apart from historic field boundaries, the only feature was a pit containing Bronze Age pottery at the eastern end of the Dobwalls bypass, c.2km east of the site near to Looe Mills (Highways Agency 2011; AC Archaeology *forthcoming*). A watching brief carried out at Lantoom Quarry, 1.4km to the east, identified an undated fieldsystem and a pit (Thorpe 2013). At Coldwind Lane, Dobwalls, to the north of the site a geophysical survey and a watching brief identified a removed field boundary (Cornish hedgbank) and two undated ditches (CAU 2008; 2009).

The Cornwall and Scilly HER records evidence for human activity in the surrounding area from the medieval to the post-medieval period (see Figure 8 and Table 2); however, as the Cornwall and Scilly HLC characterises this area as *medieval farmland* (part of *Anciently Enclosed Land* or AEL), the absence of Prehistoric and Romano-British sites probably reflects a lack of the fieldwork rather than a genuine absence of earlier features. AEL is generally regarded as having *high* potential for Prehistoric and Romano-British remains.

3.1.1 PREHISTORIC 4000BC - AD43

No Prehistoric or Romano-British sites are recorded in the immediate area around the site; as discussed, this absence is likely to be more apparent than real.

3.1.2 EARLY MEDIEVAL AD410 – AD1065

No early medieval sites are recorded in the immediate area around the site. However, the tenurial and ecclesiastical framework of the landscape would have been established by 1086, and the several farms first recorded in the 14th century (see below) are likely to have their origins in the early medieval period.

3.1.3 MEDIEVAL AD1066 - AD1540

The main farms in the area are first recorded in the 14th and 13th century AD: Havett 1201 (MCO146763), Doublebois 1296 (MCO14286), Beneathway 1302 (MCO13364), Treheath 1327 (MCO17399) and Treburegy 1337 (MOC17078). The field names around Beneathway strongly suggest the presence of common strip fields (e.g. *Great* and *Little Undertown*), and a medieval strip field system is recorded at Little Treburegy (MCO21174).

3.1.4 POST-MEDIEVAL AND MODERN AD1540 - PRESENT

Population and settlement expanded during the post-medieval period, driven by the increasing industrialisation of the Cornish landscape. In this area a single enginehouse is recorded near Havett Farm (East Jane MCO52660, but this appears to be an error), and a section of the Cornish Main Line (Cornwall Railway, which was later amalgamated by Great Western Railway c.1889) was constructed in c.1860 (McCarthy 2008); the HER lists several bridges and a railway station that were constructed as part of this line (MCO55108-55111). Dobwalls appears to be a minor roadside settlement that has expanded significantly during the 20th century, associated with St Peter's Church (MCO44364), Dobwalls Chapel (MCO56158), and with a record for post-medieval tannery (MCO29517). The Dobwalls bypass (A396), opened in 2008, has had a very pronounced impact on the local area.

Land at Beneathway Farm, Dobwalls & Trewidland, Cornwall

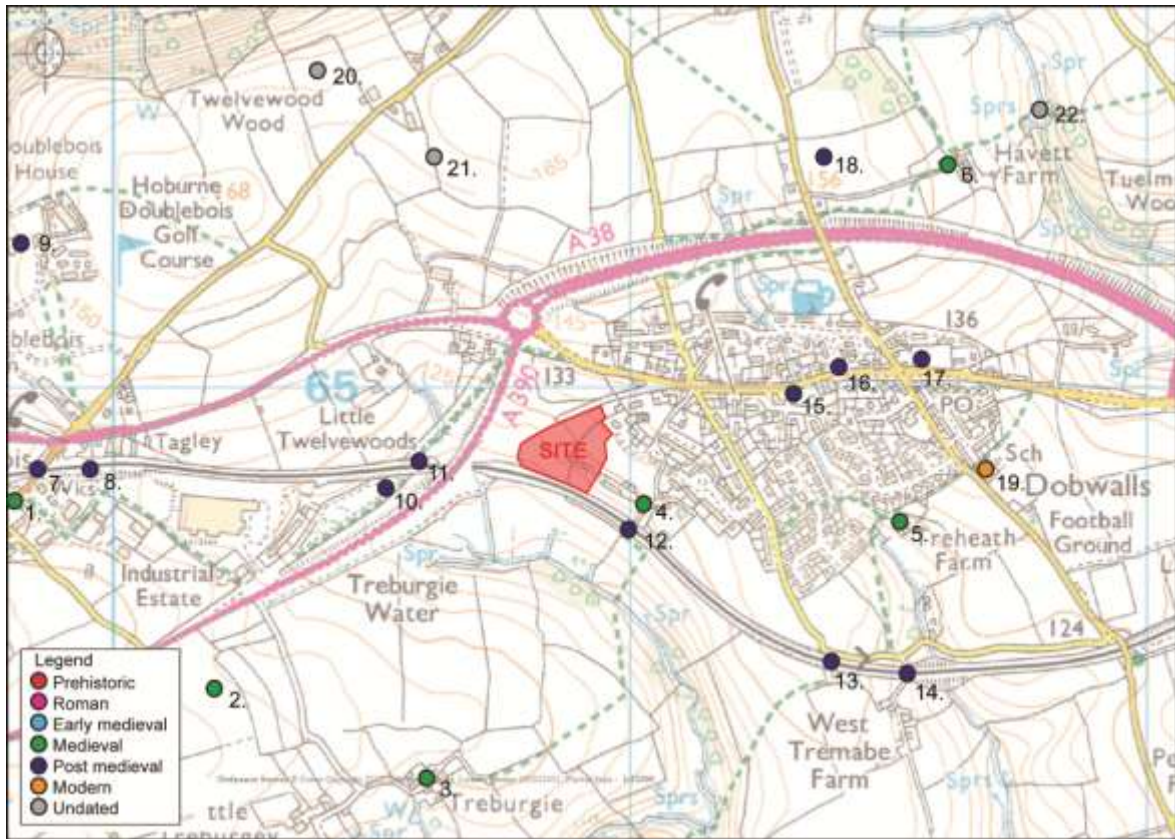


FIGURE 7: MAP OF NEARBY HERITAGE ASSETS (SOURCE: CORNWALL AND SCILLY HER).

TABLE 2: TABLE OF NEARBY HERITAGE ASSETS (SEE FIGURE 7) (SOURCE: CORNWALL AND SCILLY HER).

No.	HER No.	Name	Record	Description
1	MCO14286	Doublebois	Documentary	Settlement first recorded 1296
2	MCO21174	Little Trebурgey	Monument	Medieval fieldsystem associated with Trebурgey
3	MCO17078	Trebурgey Farm	Documentary	Settlement first recorded 1337
4	MCO13364	Beneathway Farm	Documentary	Settlement first recorded 1302
5	MCO17399	Treheath Farm	Documentary	Settlement first recorded 1327
6	MCO14763	Havett Farm	Documentary	Settlement first recorded 1201
7	MCO55108	Doublebois Railway Bridge	Structure	Bridge carrying the Cornish Main Line over a public road
8	MCO55109	Doublebois Railway Station	Demolished structure	Demolished railway station
9	61262	Doublebois House	Structure	GII building, built 1883x5 for the Herman family; example of high Victorian gothic
10	MCO52802	Trebурgey Water Milepost	Structure	GII cast iron milepost
11	MCO55110	Liskeard Road Railway Bridge	Structure	Bridge carrying the Cornish Main Line over a public road
12	MCO55111	Trebурgey Railway Bridge	Structure	Bridge carrying the Cornish Main Line over a farm lane
13	MCO55112	Tremabe Railway Bridge	Structure	Accommodation bridge over the Cornish Main Line
14	MCO55113	Treheath Railway Bridge	Structure	Bridge carrying the Cornish Main Line over a farm lane
15	MCO29517	Dobwalls Tannery	Documentary	Post-medieval tannery run by G. Blewett in 1842
16	MCO44364	Church of St Peter	Structure	GII Church of St Peter, built 1839
17	MCO32053 MCO56158 MCO32052 MCO52370	Dobwalls Chapel Sunday School Cemetery	Structure	Chapel and associated cemetery, designed by Henry Rice in 1859
18	MCO52660	Wheal Jane Enginehouse	Structure	Enginehouse, with former pumping engine
19	MCO51372	County Primary School	Structure	Primary school shown on OS 2 nd map
20	MCO37242 MCO37243	Relict field boundaries Quarry	APs	Relict field boundaries and quarry shown on aerial photographs
21	MCO37241	Relict field boundaries	APs	Relict field boundaries on aerial photographs
22	MCO37240	Relict field boundaries	APs	Relict field boundaries on aerial photographs

3.2 LIDAR AND AERIAL PHOTOGRAPHY

Processed LIDAR data (Figure 8) clearly shows the fields to the south of the railway line, and north of Beneathway Farm, crossed by a series of slight linear depressions, presumably the relict field boundaries shown on historic maps. On the proposed site, the surface of the western field looks like it has been landscaped. A review of recent aerial photography (2000-17) does not show any archaeological features, but does show landscaping works associated with the construction of the Dobwalls bypass (A396) in 2006x08.

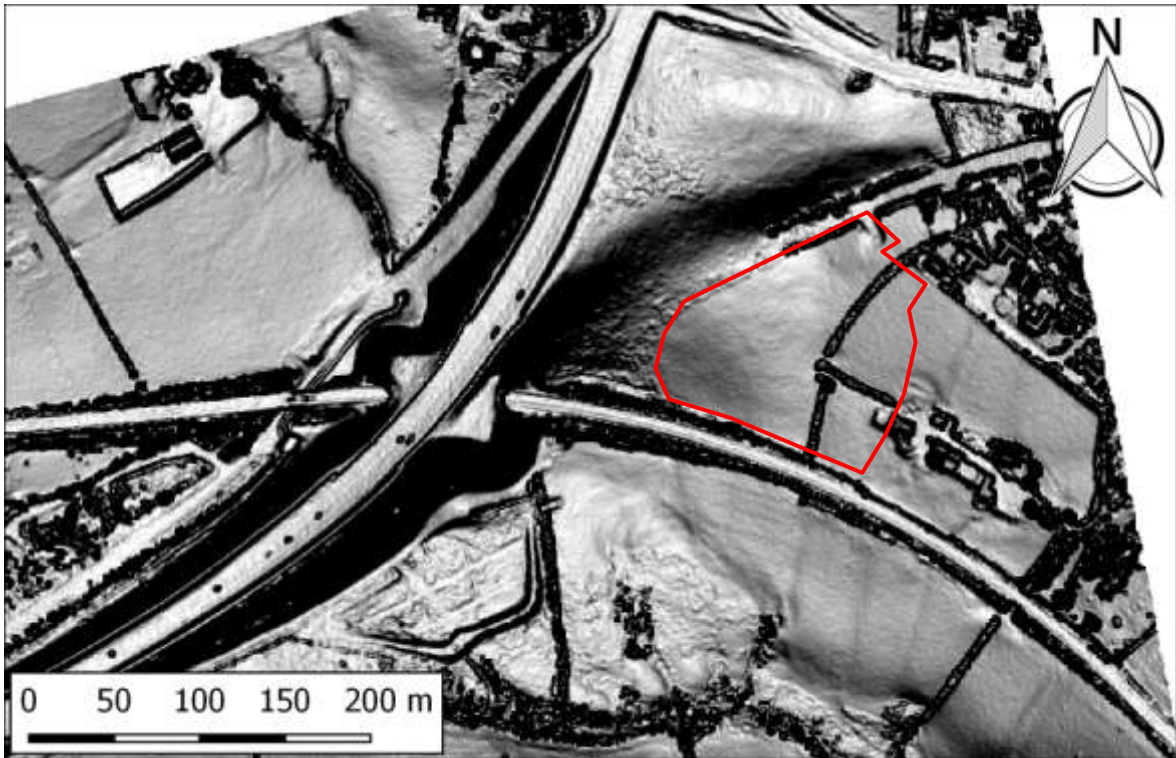


FIGURE 8: IMAGE DERIVED FROM 1M DSM LIDAR DATA, SHOWING THE SITE (INDICATED)(PROCESSED USING QGIS VER2.18.2, TERRAIN ANALYSIS/SLOPE, VERTICAL EXAGGERATION 3.0). DATA: © ENVIRONMENT AGENCY COPYRIGHT AND DATABASE RIGHTS 2017; CONTAINS OS DATA © CROWN COPYRIGHT AND DATABASE RIGHTS 2017.

3.3 SITE INSPECTION

The site comprises parts of three fields, bounded by the Cornish Main Line railway, Beneathway Farm, the Beneathway residential estate and a newly-planted wooded area on the line of the old A396. The railway embankment forms the southern boundary, there are modern fences and block walls to the north, and wire fencing to the west and north-west. The site takes in part of the two fields immediately adjacent to Beneathway Farm, and includes the west end of the farmyard. At the time of the inspection the fields were under a long grass crop, with reeds noted in the western field and nettles and thistles across the whole site, particularly to the south-west corner. An area of dense overgrowth in the south-east corner of the site concealed an area of uneven ground, perhaps dumped material or disturbed by machinery or livestock. The internal boundaries of the site are Cornish hedgebanks, c.3m wide and 1.5m tall topped with clipped hedge shrubs. Access to the site was via gateways to the north, north-west, and from Beneathway Farm. The site slopes from the north-east to the south-west, steeper in the south-west corner and flatter in the south-east field. A mound was noted in the south-east field, at the western end of the farmyard and outbuildings, and is probably associated with the construction of the more recent buildings. The yard had a concrete surface with a set of c.1980s wooden cow cubicles at its western end, a much-repaired historic stone-rubble barn to its northern side, and a recent pole barn with lean-to along its southern edge. A complement of site photographs can be found in Appendix 2.



FIGURE 9: VIEW ACROSS THE SOUTH-EAST FIELD TO THE EDGE OF THE HISTORIC FARMSTEAD; VIEWED FROM THE NORTH-WEST.



FIGURE 10: HISTORIC BARN SHOWN ON 1880S MAP BEYOND THE EASTERN SITE BOUNDARY; VIEWED FROM THE WEST (SCALE 2M).

3.4 ARCHAEOLOGICAL POTENTIAL

The archaeological potential of the site appears to be fairly *low* overall, in large part due to the extent of groundworks associated with the Dobwalls bypass. There are no Prehistoric or Romano-British sites recorded on the HER close to the site, and apart from Beneathway Farm itself, most HER entries are fairly recent in date.

4.0 GEOPHYSICAL SURVEY

4.1 INTRODUCTION

An area of c.1.8ha was the subject of a magnetometry (gradiometer) survey. The purpose of this survey was to identify and record magnetic anomalies within the proposed site. While identified anomalies may relate to archaeological deposits and structures the dimensions of recorded anomalies may not correspond directly with any associated features. The following discussion attempts to clarify and characterise the identified anomalies. The survey was undertaken on the 31st of May 2017 by J. Bampton; the survey data was processed by J. Bampton.

4.2 METHODOLOGY

The gradiometer survey follows the general guidance as outlined in: *Geophysical Survey in Archaeological Field Evaluation* (English Heritage 2008) and *Standard and Guidance for Archaeological Geophysical Survey* (ClfA 2014b).

The survey was carried out using a twin-sensor fluxgate gradiometer (Bartington Grad601). These machines are sensitive to depths of up to 1.50m. The survey parameters were: sample intervals of 0.25m, traverse intervals of 1m, a zigzag traverse pattern, traverse orientation was circumstantial, grid squares of 30×30m. The gradiometer was adjusted ('zeroed') every 0.5-1ha. The survey grid was tied into the Ordnance Survey National Grid. The data was downloaded onto *Grad601 Version 3.16* and processed using *TerraSurveyor Version 3.0.25.0*. The primary data plots and analytical tools used in this analysis were *Shade* and *Metadata*. The details of the data processing are as follows:

Processes: Clip +/- 3SD; DeStripe all traverses, median.

Details: 1.2532ha surveyed; Max. 135.45nT, Min. -138.51nT; Standard Deviation 25nT, mean 0.6nT, median -0.05nT.

4.3 RESULTS

Table 3 with the accompanying Figures 11 and 12 show the analyses and interpretation of the geophysical survey data. Additional graphic images of the survey data and numbered grid locations can be found in Appendix 1.

TABLE 3: INTERPRETATION OF GRADIOMETER SURVEY DATA.

Anomaly Group	Class and Certainty	Form	Archaeological Characterisation	Comments
1	Moderate positive and negative, probable	Linear	Historic Field Boundary	Indicative of a bank and ditch associated with an historic field boundary depicted on the 1840 Liskeard tithe map and OS mapping from c.1963 and absent from OS mapping in 1975. Responses of +/-30nT.
2	Moderate positive and negative, probable	Linear	Boundary or drainage	Indicative of a bank and ditch that may define an earlier extent of Beneathway Farm's yard/property and may also be associated with drainage from the upper-slopes diverted past the working yard/farm. Possibly associated with probable drainage identified as Groups 3 and 4. Responses of +30nT and -20nT.
3	Weak positive, probable	Linear	Land drain	Possible drainage ditch/land drain aligned parallel to the slope. Response of between +5nT and +15nT.
4	Weak to Moderate positive and negative, probable	Linear	Land drain	Possible land drains with the negative response indicative of possible stone lining or in-fill. Aligned perpendicular to- and associated with Group 3. Responses of up to +23nT and -13nT.
5	Strong mixed/bipolar response	Linear	Modern metallic service	Indicative of a modern pipe or large cable with a fenced off access point that has been sealed with a concrete slab on the site. Response of between -112nT and +123nT.

4.4 DISCUSSION

The survey identified five groups of anomalies and identified that the majority of the site (the western field) had been subject to widespread ground disturbance and/or deposition of ferrous debris. The anomaly groups include a historic field boundary, a modern service, drainage ditches and a possible drainage ditch/boundary. Ferrous debris appears to have been spread across the western field of the site, resulting in a variable background response of c. \pm 45nT and up to c. \pm 100nT. This response may obscure any other archaeological responses, and the process by which this material was deposited may have truncated potential buried archaeological features or deposits. The historic maps show two relict field boundaries in this western field; as neither of these boundaries can be identified on the gradiometry survey it is reasonable to suppose that the ferrous debris has fully obscured them, that they have been truncated or removed, or that they have been buried. The large number of geotechnical pits observed across the site that indicate a stony shillet natural beneath the topsoil. The general background variation of the site was between -10nT and +15nT, with stronger responses at the bottom of the slope that may indicate a greater survival of soil deposits on the lower slopes. Ephemeral linear responses aligned to gateways (vehicle tracks) and possible plough-scars aligned parallel to the curving north-south hedgebank were also noted. However, the strength of responses would suggest they only exist with the topsoil.

Anomaly Group 1 consists of parallel diffuse moderate (\pm 30nT) positive and negative linear responses, aligned approximately north-south in the south-east field of the site. This anomaly can be associated with a historic boundary depicted on the 1840 Liskeard tithe map and on historic OS mapping from 1889 to 1963; it is absent from OS mapping in 1975.

Anomaly Group 2 consists of parallel diffuse moderate (+30nT and -20nT) positive and negative linear responses, aligned approximately north-east by south-west in the north-east field of the site. This response is similar to Group 1 and may represent a relict field boundary. If so, it could represent an earlier enclosure below Beneathway Farm. However, it may also be associated with drainage of the upper slopes north of the farm buildings. The probable land drain anomalies (Groups 3 and 4), which are parallel and perpendicular to this anomaly, imply it may be associated with a network of drainage in this field.

Anomaly Group 3 consists of a weak (+5nT to +15nT) positive linear response aligned north-east by south-west, parallel to the slope. This is indicative of a drainage ditch or land drain and is associated with Group 4.

Anomaly Group 4 consists of two weak to moderate (+23nT and -13nT) positive with negative linear response aligned north-west by south-east, perpendicular to Group 3. These may be indicative of stone-filled or stone-lined land drains associated with Groups 3 and 2.

Anomaly Group 5 consists of a strong (-112nT to +123nT) mixed/bipolar linear response aligned approximately east-west. This indicative of a modern (probably metallic) service pipe associated with the houses to the north-east of the site. A fenced-off concrete slab close to the northern entrance to the site presumably seals an access to this service.



FIGURE 11: SHADE PLOT OF GRADIOMETER SURVEY DATA; MINIMAL PROCESSING.
SOUTH WEST ARCHAEOLOGY LTD.

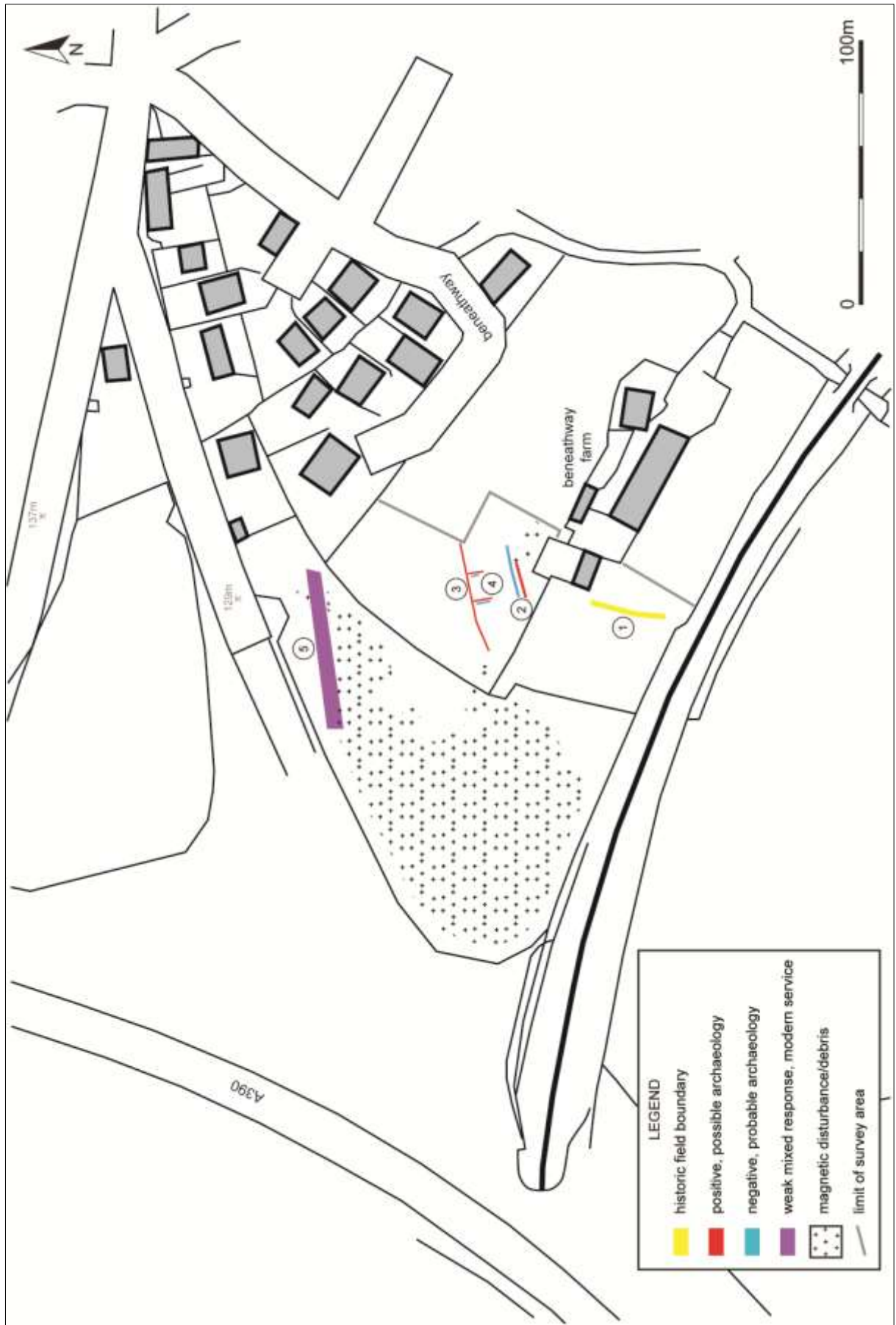


FIGURE 12: INTERPRETATION OF GRADIOMETER SURVEY DATA.
SOUTH WEST ARCHAEOLOGY LTD.

5.0 CONCLUSION

The site is located in the angle between the Cornish Main Line, the former A396 and the settlement of Dobwalls, on land associated with a settlement first recorded in the 14th century, *Beneathway*. The HLC characterises this land as *medieval farmland*, which is normally accorded a *high* potential for Prehistoric and Romano-British remains; however, no firm evidence for Prehistoric or Romano-British activity has been reported within 1km of the site, including during the works associated with the Dobwalls bypass.

The site inspection failed to identify significant archaeological remains within the area of the development. The geophysical survey identified a probable historic field boundary and probable undated ditches/land drains, most likely associated with drainage of the field system post enclosure. The geophysical survey was inconclusive for most of the site, which had been disturbed and/or subject to the deposition of ferrous debris, which will have masked most responses. A modern service associated with the houses to the east of the site was identified at the north end of the western field.

The debris masking much of the site means the archaeological potential of the site is *unproven*; however, for those areas where the geophysical survey worked, and taking into consideration the recorded heritage assets in the wider area, the archaeological potential of the site is *low* to *medium*. Based on the results of the walkover and geophysical surveys, further archaeological works on this site are unlikely to add additional detail to the archaeological record.

6.0 BIBLIOGRAPHY & REFERENCES

Published Sources:

- Chartered Institute of Field Archaeologists** 2014a: *Standard and Guidance for Historic Environment Desk-based Assessment*.
- Chartered Institute for Archaeologists** 2014b: *Standard and Guidance for Archaeological Geophysical Survey*.
- English Heritage** 2008: *Geophysical Survey in Archaeological Field Evaluation*.
- Lysons, D. & Lysons, S.** 1814: *Magna Britannia, volume 3: Cornwall*. London.
- McCarthy, C. & McCarthy D.** 2008: *Railways of Britain: Devon and Cornwall*. Ian and Allan Publishing.
- Pounds, N.** 1982: *The Parliamentary Survey of the Duchy of Cornwall* (pt.1). DCRS no.25.
- Schmidt, A.** 2002: *Geophysical Data in Archaeology: A Guide to Good Practice*. ADS series of Guides to Good Practice. Oxbow Books, Oxford.
- Soil Survey of England and Wales** 1983: *Legend for the 1:250,000 Soil Map of England and Wales (a brief explanation of the constituent soil associations)*.
- Watts, V.** 2004: *The Cambridge Dictionary to English Place Names*. Cambridge University Press.
- Williams, A. & Martin G.H.** 2002: *Domesday Book*. Penguin Books, London.

Websites:

- Archaeological Data Service (ADS)** 2017: *Archsearch & Grey Literature*
<http://archaeologydataservice.ac.uk>
- British Geological Survey** 2017: *Geology of Britain Viewer*.
http://maps.bgs.ac.uk/geologyviewer_google/googleviewer.html
- Cornwall Council Interactive Map** 2017: *HER and HLC*
<https://map.cornwall.gov.uk>
- Cornwall Record Office (CRO)** 2017: *National Archives*
<http://discovery.nationalarchives.gov.uk>
- Environment Agency** 2017: *LiDAR, Digital Surface Model data*
<http://environment.data.gov.uk/ds/survey#>

Unpublished Sources:

- AC Archaeology** forthcoming: 'Archaeology of the A38 Dobwalls Bypass', *Cornish Archaeology*.
- CAU** 2008: *Coldwind Lane, Dobwalls, Geophysical Survey: statement of archaeological implications*. CAU report 2008R0115.
- CAU** 2009: *Coldwind Lane, Dobwalls, Cornwall: archaeological watching brief*. CAU report 2009R035.
- Donaldson, K.** 2004: *Geophysical Survey Report. A38 Dobwalls Bypass, Cornwall*. Stratascan.
- Highways Agency** 2011: *A38 Dobwalls Bypass One Year After Report*.
- Interserve** 2004: *ES Volume 2 Chapter – Cultural Heritage*. TUE 91061/49/-.
- Thorpe, C.** 2013: *Lantoom Quarry, Liskeard: Archaeological watching Brief*. CAU.

Cornwall Record Office

Liskeard tithe map and apportionment c.1840

APPENDIX 1: ADDITIONAL GRAPHICAL IMAGES OF THE GRADIOMETER SURVEY



Geophysical survey grid location and numbering.



Red-Grey-Blue shade plot of gradiometer survey data; band weight equalised; gradiated shading.



Red-Blue-Green(2) shade plot of gradiometer survey data; band weight equalised; gradiated shading.

APPENDIX 2: BASELINE PHOTOGRAPHS



The western field, northern entrance, showing the edge of the Beneathway residential estate; viewed from the south-west, looking north-east (scale 2m).



The western field, north entrance; viewed from the north-east, looking south-west (scale 2m).



The western field; viewed from the north, looking south (scale 2m).



The southern end of the western field, showing part of walled railway embankment; viewed from the north-east, looking south-west (scale 2m).



The eastern side of the western field, showing the hedgebank and gateways into the eastern fields; viewed from the west, looking east (scale 2m).



The south-east field viewed from the north-west gateway; viewed from the north-west, looking south-east.



The south-east field, at the east edge of the site boundary overlooking the scrubby vegetation; viewed from the north-west, looking south-east (scale 2m).



Outbuildings at western end of Beneathway Farm; viewed from the south, looking north.

Land at Beneathway Farm, Dobwalls & Trewidland, Cornwall



The north-east field viewed from the farmyard; viewed from the south, looking north.



The north-east field, at the eastern edge of the site looking west; viewed from the east.



The north-east field, at the eastern edge of the site, looking back towards the barns; viewed from the east-north-east, looking west-south-west.



The north-east field, at the eastern edge of the site, looking towards Dobwalls; viewed from the south-west, looking north-east.



The north-east field, at the eastern edge of the site, looking towards Beneathway Farm; viewed from the west, looking east.



The c.1980s wooden cow cubicles at the western end of the farmyard and within the site boundary; viewed from the south-east, looking north-west (scale 2m).



The recent pole barn with lean-to at the western end of Beneathway Farm; viewed from the north-west, looking south-east.



The late 19th century historic stone-rubble barn beyond the eastern edge of the site; viewed from the south-west, looking north-east (scale 2m).



As above; viewed from the west, looking east (scale 2m).



As above; viewed from the north-west, looking south-east (scale 2m).



As above; viewed from the north-east, looking south-west (scale 2m).



As above; viewed from the east, looking west (scale 2m).



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