NEW OVERHEAD CABLE POLES, PRINCESS GATE SPRING WATER, LUDCHURCH, NARBERTH, PEMBROKESHIRE ARCHAEOLOGICAL WATCHING BRIEF (SN 15577 11534 to SN 16219 11693)





Prepared by DAT Archaeological Services For: Western Power Distribution





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Gan / By

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NEW OVERHEAD CABLE POLES, PRINCESS GATE SPRING WATER, LUDCHURCH, NARBERTH, PEMBROKESHIRE

ARCHAEOLOGICAL WATCHING BRIEF

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NEW OVERHEAD CABLE POLES, PRINCESS GATE SPRING WATER, LUDCHURCH, NARBERTH, PEMBROKESHIRE ARCHAEOLOGICAL WATCHING BRIEF

SUMMARY

DAT Archaeological Services were commissioned by Western Power Distribution services to undertake an archaeological watching brief during the installation of new overhead cable poles to the south-east of Newhouse Farm, Ludchurch, Pembrokeshire. The route runs from approximately NGR SN15577 11534 to SN 16219 11693. Newhouse Farm is now largely occupied by the Princess Gate Spring Water bottling plant.

The proposed works included the installation of eight poles for overhead electricity cables and the excavation of two short lengths of underground cable trenches. This scheme of works replaced an existing set of cables located closer to buildings associated with Little Newhouse Farm to the north-east of the bottling plant. The new cable route was located within close proximity of the Schedule Ancient Monument PE178 which comprises three Bronze Age round barrows. In addition to these sites, there are several known prehistoric sites with the immediate vicinity. The works were thus seen as having the potential to expose, damage or destroy associated archaeological remains and a requirement for an archaeological watching brief was placed as a condition on the planning permission granted for the works.

All of the post-hole trenches and stay pits were seemingly devoid of any archaeological features or deposits. The underground cable trench located in the Little Newhouse Farm field truncated a boggy hollow revealing a sequence of gleyed deposits attesting to the historic cartographic evidence that this area was once a spring or natural pond. Modern drain pipes and possible evidence of earlier land drains indicate that the area has been drained as an effort of land improvement for cultivation. Furthermore, the loamy nature of the topsoil in this field is further testament to improved agricultural practice. The remaining short length of cable trench between the original transformer post and the newly erected post located in the north-east corner of the Little Newhouse Farm field revealed the disturbed fill of the original cable trenches.

Despite the proximity to the significant archaeological sites identified within the area, no-such archaeology was revealed during this watching brief. Whilst the result of this watching brief is negative, it does not negate the possibility of significant archaeology surviving elsewhere within the vicinity, especially as the extent of the groundworks undertaken for this scheme was minimal. There is still a very good potential for further archaeological remains associated with the Bronze Age barrow cemetery and possible standing stone to survive within previously undisturbed parts of the area.

1 INTRODUCTION

1.1 Project Proposals and Commission

- 1.1.1 DAT Archaeological Services were commissioned by Western Power Distribution services to undertake an archaeological watching brief during the installation of new overhead cable poles to the southeast of Newhouse Farm, Ludchurch, Pembrokeshire (Figure 1). The route runs from approximately NGR SN15577 11534 to SN 16219 11693. Newhouse Farm is now largely occupied by the Princess Gate Spring Water bottling plant.
- 1.1.2 The proposed works included the installation of a number of poles for overhead electricity cables and the excavation of two short lengths of underground cable trenches. This scheme of works replaced an existing set of cables located closer to buildings associated with Little Newhouse Farm to the north-east of the bottling plant. The new cable route is located within close proximity of the Scheduled Ancient Monument PE178 which comprises three Bronze Age round barrows. In addition to these sites, there are several known prehistoric sites within the immediate vicinity.
- 1.1.3 Owing to the proximity of the proposed cable scheme to these known sites, three of which are considered to be of national importance (Scheduled Ancient Monument PE178), the potential for further, associated buried archaeology within the scheme was considered to be high. Consequently, the Development Management section of Dyfed Archaeological Trust, in their capacity as archaeological advisor's to the local planning authority, recommended that an archaeological watching brief be undertaken during the groundworks associated with the scheme of works. This requirement was placed as a condition on planning permission 15/1184/PA granted for the works.

1.2 Scope of the Project

- 1.2.1 A written scheme of investigation (WSI) for a watching brief was prepared by DAT Archaeological Services prior to the commencement of the works, which was approved by the Development Management section of Dyfed Archaeological Trust in their capacity as advisors to the local authority, prior to the commencement of the works (Appendix 1). The project objectives were:
 - Provision of a written scheme of investigation to outline the methodology by which DAT Archaeological Services will undertake the watching brief.
 - To identify the presence/absence of any archaeological deposits.
 - To establish the character, extent and date range for any archaeological deposits to be affected by the proposed groundworks.
 - To appropriately investigate and record any archaeological deposits to be affected by the groundworks.
 - To produce an archive and report of any results.
- 1.2.2 The overall work was summarised as: "Archaeological attendance during ground works associated with the erection of new overhead electric cables and excavation of a new underground cable on land to the south of Newhouse Farm, Princes gate, Pembrokeshire which are likely to expose, damage or destroy archaeological remains. Appropriate investigation and recording of any such remains will be undertaken if revealed. A report and archive of the results of the works will be prepared."

1.3 Report Outline

1.3.1 This report describes the location of the development works along with its archaeological background, and provides a summary and discussion of the archaeological watching brief and its results.

1.4 Abbreviations

1.4.1 Sites recorded on the regional Historic Environment Record (HER) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Sites recorded on the National Monument Record (NMR) held by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) are identified by their National Primary Record Number (NPRN). Scheduled Ancient Monument (SAM). Altitude is expressed to a height above Ordnance Datum (aOD). References to cartographic and documentary evidence and published sources will be given in brackets throughout the text, with full details listed in the sources section at the rear of the report.

1.5 Illustrations

1.5.1 Photographic images are to be found within the report. Printed map extracts are not necessarily reproduced to their original scale.

1.6 Timeline

1.6.1 The following timeline is used within this report to give date ranges for the various archaeological periods that may be mentioned within the text.

Period	Approximate date	
Palaeolithic –	c.450,000 - 10,000 BC	
Mesolithic –	c. 10,000 – 4400 BC	Pre
Neolithic –	c.4400 - 2300 BC	hist
Bronze Age –	c.2300 - 700 BC	Prehistoric
Iron Age –	c.700 BC - AD 43	
Roman (Romano-British) Period –	AD 43 – c. AD 410	
Post-Roman / Early Medieval Period –	c. AD 410 – AD 1086	
medieval Period –	1086 - 1536	Historic
post-medieval Period ¹ –	1536 - 1750	orio
Industrial Period –	1750 - 1899	n
modern –	20 th century onwards	

Table 1: Archaeological and historical timeline for Wales

¹ The post-medieval and industrial periods are combined as the post-medieval period on the Regional Historic Environment Record as held by Dyfed Archaeological Trust

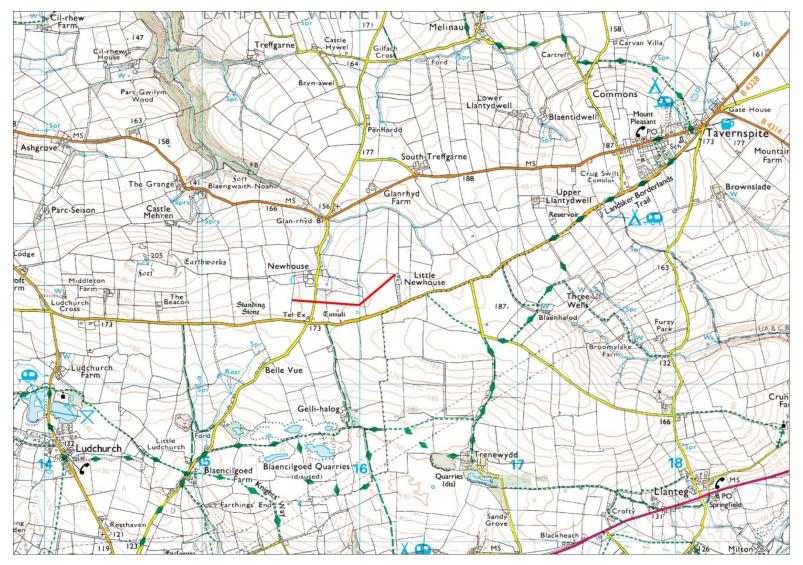


Figure 1: Location map showing the location and route of the scheme of works (outlined red) at Princess Gate Spring Water

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2 SITE LOCATION AND TOPOGRAPHY

- 2.1 Little Newhouse Farm and the adjacent Princess Gate Spring Water bottling plant at Newhouse Farm are located approximately 2.4km northeast of the village of Ludchurch, nearest to the town of Narberth in southern Pembrokeshire. The proposed cable scheme traverses a slight cwm within which are a number of springs, hence the siting of the spring water bottling plant. The land rises gently to the south-east and more steeply to the west, culminating to around 200m aOD. Specifically, the cable scheme begins around 212m aOD south-west of Princess Gate bottling plant (SN 15577 11534) before terminating at Little Newhouse Farm around 280m north-east of the plant (SN 1621911693) (Figure 2).
- 2.2 The underlying solid geology is Argillaceous Rocks, Sandstone and Conglomerate of the Milford Haven Group. These are Sedimentary rocks which formed approximately 407 to 423 million years ago during the Devonian and Silurian periods (Source; British Geological Survey).
- 2.3 The proposed new overhead cable route traverses three pasture fields which are framed to the west by a minor road and the B4314 road to the south. The three Scheduled round barrows are located in the field immediately south of Princess Gate Spring Water plant (Newhouse Farm). On arrival to the site it was immediately apparent that a large area of the field had been quarried recently to form a terrace to accommodate a large extension to the Princes Gate bottling plant. This excavation had been undertaken prior to the removal of the existing overhead cable route and consequently one of the cable poles was left stranded on a pinnacle of bedrock (Photo 1). There also appeared to be a large, broad bund of redeposited material at the eastern end of the excavated area. It was also possible to discern the extent of newly grassed areas as indicated by a distinction between thick meadow grass and short, earth bare patches of grass within metres of the margins of the excavated area (Photo 10).. The adjoining Little Newhouse Farm field was largely flat, save for a boggy hollow located at the western boundary.

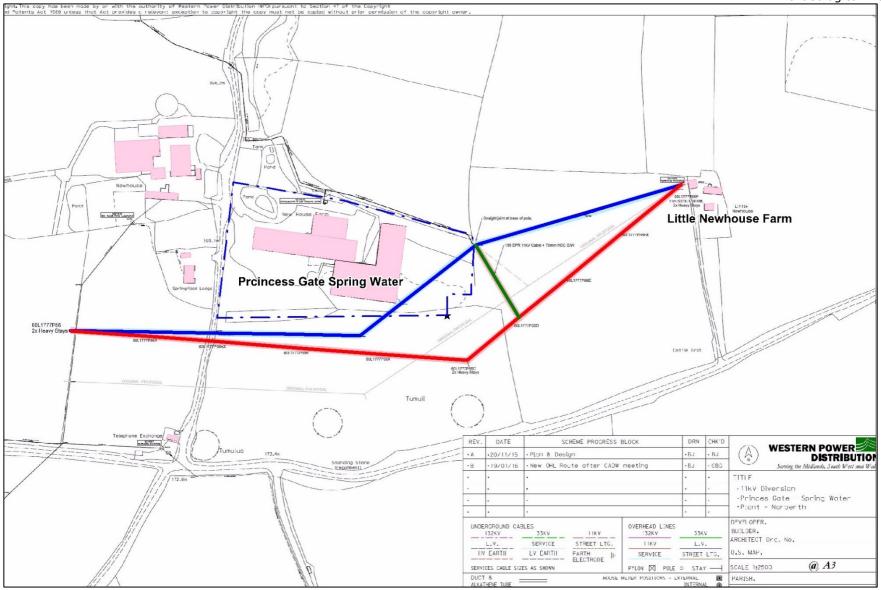


Figure 2: Location plan showing the proposed route of the new overhead cables (red line) and underground cable (green) replacing the existing cable line (blue) between Princess Gate Spring Water plant and Little Newhouse Farm. The blue dot/dashed line indicates the approximate extent of recently quarried area for the expanding water plant. (Location data supplied by, and copyright of Western Power Distribution).



Photo 1. The large, quarried area to the rear of Princess Gate Spring Water bottling plant showing the stranded electricity pole (DAT Photo 3963-109382)

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.1 The Dyfed Historic Environment Record (HER) was searched for known archaeological sites within 500m of the proposed new overhead cables route (Table 2; Figure 3). A total of nine sites were returned. All but one of these sites relates to the Newhouse Round Barrow Cemetery (group PRN 47435) which includes the three scheduled barrows: Newhouse "A" (PRN 3792), Newhouse "B" (PRN 3793) and Newhouse "C" (PRN 3794) located some 102m, 42m and 35m away respectively. Two further possible round barrows are also recorded (PRN 8309 and PRN 12873) which both lie to the east of the three scheduled barrows and some 60m and 136m away from the scheme. There is also a record for a standing stone (PRN 3795) which once stood in the field but has long since been removed. These prehistoric monuments are thought to originate from the Bronze Age and have been allocated the group PRN 47436. Finally, a cropmark thought to be that of a small, Iron Age defended enclosure (PRN 52390) lies 234m to the northwest of the proposed cable scheme.

3.2 Historic Mapping

Ludchurch tithe map c.1841

- 3.2.1 Newhouse Farm (now Princess Gate Spring Water plant) and Little Newhouse Farm farmsteads are located at the division of three parishes; Llanbedr Felfre to the north, Crunwear parish to the east and Ludchurch parish to the south-west. The fields which are traversed by the cable route appear on the Ludchurch tithe map of 1841 and it was not possible to identify the farmsteads of Newhouse and Little Newhouse on either the Llanbedr Felfre or Crunwear tithe maps.
- 3.2.2 The Ludchurch tithe map shows that the layout of the fields occupied by the round barrows has not altered since the mid-nineteenth-century (Figure 4). The fields are shown to be vacant and undeveloped. The two afore mentioned roads which frame the site are also present.

1st edition Ordnance Survey map of 1889

3.2.3 The 1st edition 1:2500 Ordnance Survey map of 1889 provides a little more detail about the nature of the fields and Newhouse and Little Newhouse farmsteads towards the end of the nineteenth-century (Figure 5). The fields are still vacant and undeveloped and are depicted as being rough, marshy terrain. A small stream and spring are depicted in the area of the proposed underground cabling route, in the area conforming at present to a boggy hollow. A larger spring is shown on the site of the present water bottling plant. The eastern round barrow (PRN 3792) and western round barrow (PRN 3793) are depicted, along with the position of the (now removed) standing stone (PRN 3795). It is interesting to note that adjacent to the word *Stone* are the letters "BS" for "Boundary Stone" and that this corresponds with the parish boundary. Little Newhouse farm is annotated as being "Newhouse Mountain".

2nd edition Ordnance Survey map of 1907

3.2.3 The 2nd edition 1:2500 Ordnance Survey map of 1907 shows little variation from the 1st edition save for the improvement of the fields between Newhouse and Little Newhouse farmsteads. The land around Newhouse Farm is still depicted as marshy and rough (Figure 6). The small spring annotated at the location of the proposed underground cable trench, is no longer shown possibly suggesting that this has been drained, attesting to the general improvement of the land at this time. The Scheduled round barrows are clearly depicted and annotated although the central barrow is not. Little Newhouse farm is still labeled as "Newhouse Mountain".

PRN	Site Name	Period	Description	NGR	Distance and direction to development area
3792	Newhouse (West); Newhouse "A"	Bronze Age	One of at least 4, and possibly 5, round barrows at Newhouse, and the most westerly of the group. This circular mound, measures c.22m in diameter x 1.3m high. NC 2003.	SN1571611422	102m (S)
3793	Newhouse (East); Newhouse "B"	Bronze Age	One of at least 3, and possibly 5, round barrows at Newhouse, and the middle barrow of the 5. This turf-covered circular mound measures 28m in diameter x c.1.4m high. NC 2003.	SN1598911468	42m (SE)
3794	Newhouse (Central); Newhouse "C"	Bronze Age	A much-reduced round barrow, part of the Newhouse group, located between two scheduled barrows, PRNs 3792 and 3793. NC 2003.	SN1587211470	35m (S)
3795	Little Newhouse; Newhouse "D"	Bronze Age	A once prostrate standing stone at Newhouse, moved to the field boundary by 1975, and which has now disappeared. NC 2003.	SN1585011391	122m (S)
8309	Newhouse	Bronze Age	A possible ring barrow or round barrow identified as a cropmark site from aerial photographs. The site is not visible on the ground but is vaguely discernible from the context photo taken of the site from an elevated position on the hedgebank as part of the PFRS project. NC 2003.	SN16021145	60m (SE)
47435	Newhouse Round Barrow Group	Bronze Age	Group PRN for the round barrows of the Newhouse round barrow group. NC 2003.	SN15901150	N/A
47436	Newhouse Prehistoric Monument Complex	Bronze Age	Group PRN for the collection of prehistoric monuments at Newhouse, consisting of 4 round barrows (PRNs 3792-4 & 12873), a standing stone (PRN 3795) and a possible ring/round barrow recorded from cropmark evidence (PRN 8903). NC 2003.	SN24564776	N/A
12873	Newhouse	Bronze Age	No trace was found of this possible round barrow, which may be an outlier to the Newhouse barrow group, when visited in 2003. NC 2003.	SN16191149	136m (SE)
52390	New House	Iron Age	A possible defended enclosure in fields neighbouring Newhouse Farmstead. The site, identified on aerial photographs appears as dark cropmarks indicating ditches, but part of the outer enclosure in the south may be perpetuated by the present hedge boundary. A circular inner enclosure, approximately 90m in diameter is at least partly surrounded by a larger enclosure with projected diameter of approximately 210m. It is not known if any earthwork remains relating to this site survive today. WWS October 2004.	SN15511176	234m (NW)

Table 2. Known archaeological and historic sites recorded within 500m

proposed new overhead cables route at Princess Gate Spring Water, recorded on the Dyfed Historic Environment Record

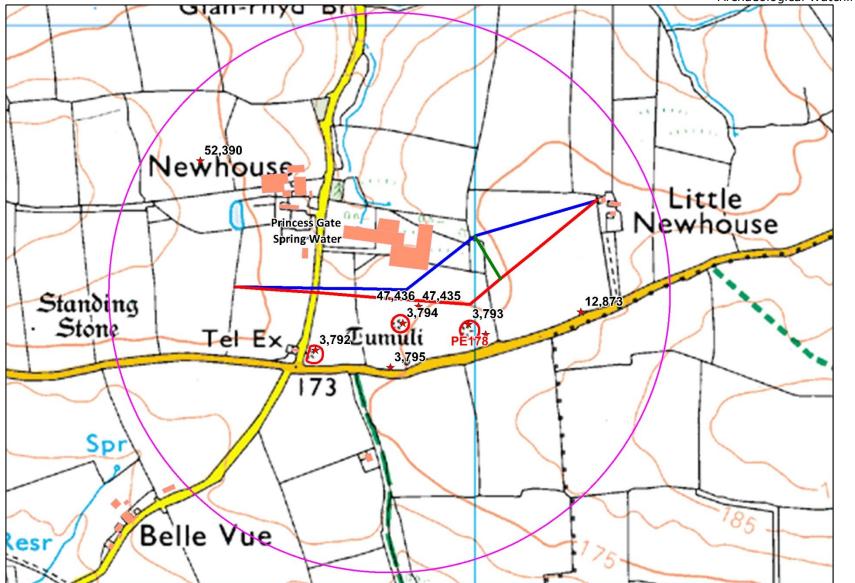


Figure 3: Recorded archaeological sites with the Dyfed Archaeological Trust Historic Environment Record, within 500m (pink buffer) of the proposed overhead cable route at Princess Gate Spring Water, Ludchurch, Narberth, Pembrokeshire

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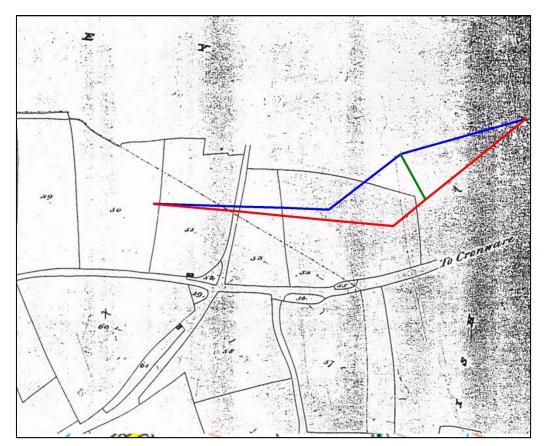


Figure 4: Extract from the Ludchurch tithe map *c*.1841 showing the site area and approximate line of existing and proposed cables through the fields

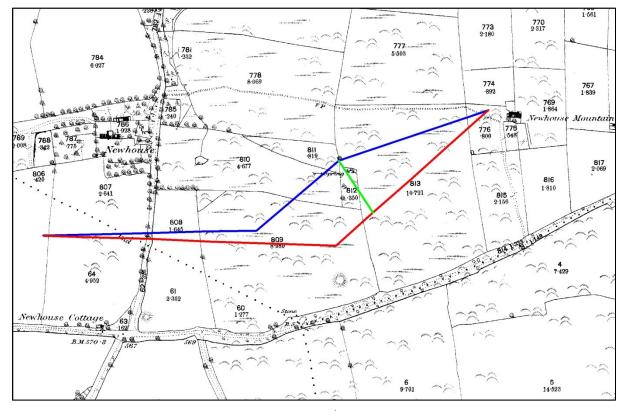


Figure 5. An extract from the 1889 1:2500 1st edition Ordnance Survey map showing the proposed cable route and Newhouse and Little Newhouse farm (annotated as "Newhouse Mountain".

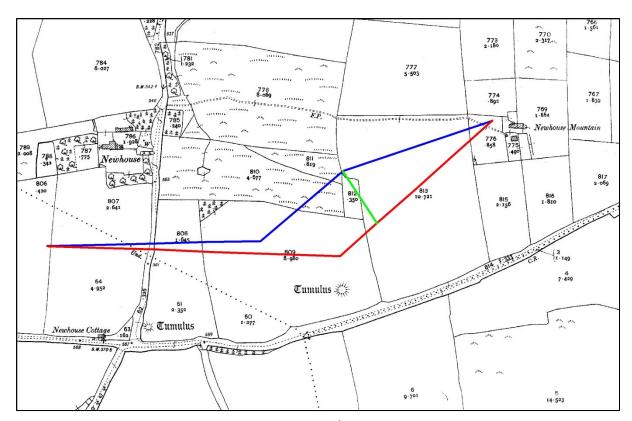


Figure 6. An extract from the 1889 1:2500 1st edition Ordnance Survey map showing the proposed cable route and Newhouse and Little Newhouse farm (annotated as "Newhouse Mountain".

- 3.2.4 The cartographic evidence demonstrates very little change or development occurred in the area during the mid-nineteenth to early twentieth centuries. However, it is interesting to note the variation in the place name from "Newhouse Mountain" on the historic mapping before emerging to become "Little Newhouse" on the modern mapping. The citing of the "Boundary Stone" in the position of PRN 3795 is interesting for it calls into question of the origin of such a monument. It is possible that the stone did have prehistoric origins and it was later employed or moved, to indicate the boundary during the post-medieval period.
- 3.2.5 Owing to the proximity of the proposed cable route to the significant archaeological sites identified between the Newhouse and Little Newhouse farmsteads, there was considered to be a high potential for further archaeological remains associated with these sites to survive within the vicinity of the cable route.

4 WATCHING BRIEF METHODOLOGY

4.1 Fieldwork

- 4.1.1 This watching brief was undertaken in accordance with the Chartered Institute of Archaeologists' (CIfA) Standard and Guidance for an Archaeological Watching Brief (2014).
- 4.1.2 A written scheme of investigation was prepared by DAT Archaeological Services detailing the proposed archaeological works, which was approved by the Development Management section of Dyfed Archaeological Trust in their capacity as archaeological advisors to the local authority.
- 4.1.3 Recording of all archaeological features or deposits conformed to best current professional practice and was carried out in accordance with the Recording Manual² used by DAT Archaeological Services. A written, drawn and photographic record was maintained throughout this watching brief, a summary of which is presented in Appendix 2. All contexts encountered during this watching brief were recorded and assigned a unique context number. These numbers are enclosed in brackets in the following text.
- 4.1.4 Excavation of the cable poles trenches was undertaken by a JCB equipped with a 0.5m, toothed bucket whilst a tracked excavator fitted with a 0.5m ditching bucket was used for the underground cable trenches. All archaeological deposits revealed during the groundworks were examined and recorded to an appropriate level.

4.2 Timetabling of Fieldwork

4.2.1 This watching brief took place between the 1st and 15th of June 2016. Three site visits were made in total. The excavation of the new cable pole trenches and a length of underground cabling trenching were undertaken on the 1st and 2nd of June. The final site visit on the 15th of June monitored the excavation of a short length of cable trenching to connect the newly erected cable line to the existing transformer located at Little Newhouse Farm.

4.3 Post-Fieldwork Reporting and Archiving

- 4.3.1 All data recovered during the fieldwork will be collated into a site archive structured in accordance with specifications in *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (Brown 2011), and the procedures recommended by the National Monuments Record, Aberystwyth.
- 4.3.2 The results of the fieldwork have been assessed in local, regional and wider contexts. The report includes a desk-based research element to ensure that the site is placed within its wider archaeological context.

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² DAT Archaeological Services have adopted the Recording Manual developed by English Heritage Centre for Archaeology. A copy will be available on-site for inspection if required.

5 RESULTS AND DISCUSSION

- 5.1 This watching brief monitored the mechanical excavation of eight post holes for new overhead cable poles and two lengths of trenches for underground cabling. Four of the cable poles required supporting stays and the pits for these were also monitored. Each post hole, pit and trench was allocated a sequential "T" number, amounting to twelve in total (Figure 7).
- 5.2 On arrival at site the three Scheduled barrows were identified and made apparent to the grounds team so as to avoid any accidental disturbance to the monuments. Work began in the barrow cemetery field, in the northeastern corner in the area of the possible bund (Photo 2). T1 (SN1598911539) measured approximately 0.5m wide, 3.5m long and 2m deep. Around 0.25m 0.30m of medium brown/reddish, friable silt topsoil (101) was removed to reveal what appeared to be pinkish-brown silty-clay subsoil (102) with frequent shattered mudstone of mixed sizes ranging from gravel to boulders. The mixed nature of this material suggested that it may have been redeposited or disturbed ground i.e. comprising bund material. A second trench (T2; SN1600011533) of similar dimensions was excavated south of T1 for its stay and revealed identical stratigraphy (Photo 3). No archaeological deposits or features were seen in either trench.



Photo 2: The JCB and newly erected pole indicates the location of T1 and its stay T2 at the north-east corner of the barrow field. Note the potential bund on which the JCB is located. (DAT Photo 3958-109382)

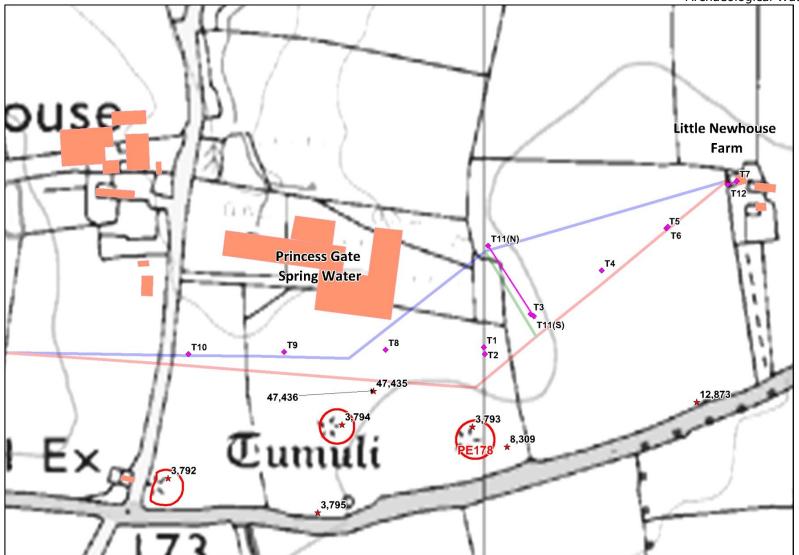


Figure 7: Plan showing the location of the pole and cable trenches watched (pink diamonds and lines) against the backdrop of the original cable route (blue) and proposed route (red). Also shown are the location and PRNs of the known archaeological sites

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Photo 3: Excavation of T2 to receive the stay for T1's pole. Note the depth of topsoil (101) in the section and the nature of (102) mixed material being revealed. (DAT Photo 3955-109382).



Photo 4: Excavated T3 showing the sequence of brown silty topsoil (301) overlying a pinkish clay-silt subsoil (302) with gravel to pebble sized shattered mudstone. (DAT Photo 3964-109382).

- 5.3 T3 (SN1604111569) was located close to the western boundary of Little Newhouse Farm, just beyond the southern end of the boggy hollow. This trench measured approximately 0.5m wide, 3m long and 2m deep. Around 0.30m of dark brown silty topsoil (301) was removed to reveal fairly compact pinkish clayey-silt subsoil with frequent gravel to pebbled sized shattered mudstone (302) (Photo 4). No archaeological deposits or features were seen in the trench.
- Work progressed to the north-east corner towards Little Newhouse Farm. T4 (SN1610511608) was located around halfway across the field and measured approximately 0.5m wide, 3m long and 2m deep. Around 0.35m of brownish-pink loamy topsoil (401) was removed to reveal a pinkish clayey-silt with shattered mudstone subsoil (402). No archaeological features or deposits were seen in the trench (Photo 5).



Photo 5: Excavated T4 showing the loam topsoil (401) overlying the pinkish, clay-silt subsoil (402). (DAT 3968-109382).

- 5.5 Continuing towards the north-east corner of the field, T5 (SN1616311646) measured approximately 0.5m wide, 3m long and 2m deep. Between 0.25m 0.30m reddish-brown loamy topsoil (501) (curiously containing a coil of modern rope), was removed to reveal a pinkish-brown silty-clay with common mudstone gravel subsoil (502) which was seen to be up to 0.40m thick (Photo 6). This was overlying the shattered mudstone natural (503). This subtle variation in stratigraphy is in accordance with the rising topography. A temporary stay (T6) for this pole was installed immediately to the north of T5 trench at (SN1617511654). No archaeological deposits or features were identified in this trench.
- 5.6 The new overhead cable line converged with the original route at an existing transformer pole located at the north-east corner of the field adjacent to Little Newhouse Farmhouse. A small stay trench (T7) was excavated immediately east of this pole against the hedgeline in disturbed ground (SN1622611688) (Photo 6).



Photo 6: Excavated T5 showing the modern rope hanging from the topsoil (501) and overlying the silty-clay subsoil (502) (DAT Photo 3970-109832).



Photo 7: Shot showing the location of the excavation of the stay trench (T7) for the existing transformer pole located at the north-east corner of the field west of Little Newhouse Farm. (DAT Photo 3974-109832).

5.7 T8 (SN1591111537) was located in the barrow field, in line with and some 87.5m west of T1 pole. This measured 0.5m wide, 3m long and 2m deep. Around 0.25m of medium brown silty topsoil (801) was removed to reveal a fairly compact pinkish-brown clayey-silty with frequent mudstone gravels

subsoil (802) (Photo 8). This was around 0.40m thick and overlay the shattered mudstone natural (803). No archaeological deposits or features were seen in the trench.



Photo 8: Excavated T8 located in the barrow field showing the friable, medium brown silty topsoil (801) overlying a pinkish-brown silty-clay with mudstone gravel subsoil (802) (DAT Photo 3975-109382).

- 5.8 T9 (SN1582011535) was located some 91m west of T8 and measured approximately 0.5m wide, 3m long and 2m deep. Up to 0.24m of a medium brown reddish silty topsoil (901) was removed revealing a pinkish-brown silty-clay subsoil (902) before encountering the laminated, shattered purple mudstone natural (903) (Photo 9). Similar to T1 this trench was also located within the margins of the quarried area of the Princess Gate bottling plant (Photo 10). No archaeological deposits or features were seen in the trench.
- The final post-hole in the barrow field was T10 which was located against the western boundary of the barrow field at SN1573411533. This measured approximately 0.5m wide, 2.5m long and 2m deep. Around 0.30m of medium brown-reddish, friable topsoil (1001) was removed to reveal a pinkish-brown silty-clay with frequent gravel mudstone subsoil (1002) which was up to 0.50m thick. This overlay the purple shattered mudstone natural (1003) (Photo 11).



Photo 9: Excavated T9 showing the depth of topsoil (901) and subsoil (902) overlying the purple shattered mudstone natural (903). (DAT Photo 3978-109382).



Photo 10: Overview showing location of newly erected pole in T9 (with JCB) within a discrete belt of reseed grass with the margin of the quarried area. (DAT Photo 3977-109382).



Photo 11: Excavated T10 at western boundary of barrow field showing silty topsoil (1001) overlying a depth of silty-clay subsoil (1002). (DAT Photo 3980-109382).

5.10 An underground cable trench (T11) was dug from the base of an existing overhead cable pole located alongside the north-western boundary of the field adjacent to Little Newhouse Farm, to the newly erected pole in T3. The trench truncated a boggy hollow located at the western side of the field and ran roughly from SN1600311630 to SN1604411567 (Photo 12).



Photo 12: The underground cable trench (T11) running from the newly erected post in T3 in the foreground to an original post alongside the western boundary of the field, visible in the background. (DAT Photo 3995-109382).

- 5.11 The trench measured approximately 0.5m wide, 85m long and around 1m deep (although varying to greater or less depth in places). In accordance with the information depicted on the historic maps, the trench revealed a sequence of deposits characteristic of former ponds or areas of localised, stagnant water.
- 5.12 Between 0.15m to 0.38m of pinkish-brown friable silt (1101) was removed to reveal up to 0.62m at the greatest depth, of gleyed (waterlogged), silty-clay deposits (1102) which in turn, overlay a pinkish clay subsoil with frequent mudstone gravel (1103) (Photo 13). There was evidence of several attempts at draining in this hollow in more recent times as a number of land drains were encountered (Photo 14). At the southern end of the trench, beyond the hollow of the former pond/ spring, the sequence of deposits resumed to that of topsoil (1101) overlying up to 0.30m of subsoil (1103) which in turn, overlay the shattered, purplish- pink mudstone natural (1104) (Photo 15). Aside from the evidence of modern drainage, no other archaeological features or archaeological deposits were identified.



Photo 13: A section of the sequence of deposits in T11 which truncated a boggy hollow revealing dark, gleyed deposits (1102) overlying the natural subsoil (1103). (DAT Photo 3986-109382).



Photo 14: A section of T11 showing a modern drainage pipe (sticking out of the section in the left of the photo) and the cut of a probable drain, in the deposits of the boggy hollow. (DAT Photo 3988-109382).



Photo 15: A section of T11 towards the southern end of the trench and beyond the boggy hollow showing the shallow depth of the shattered mudstone natural (1104) underlying the pinkish silty-clay subsoil (1103) and topsoil (1101) (DAT Photo 3993-109382).

- 5.13 Finally, post-hole T12 was dug around 8.5m west of the existing transformer pole located in the north-east corner of the field adjacent to Little Newhouse Farm. This measured approximately 2.5m long, 0.5m wide and around 2m deep. This revealed up to 0.30m of medium brown, friable loamy topsoil (1201) overlying a pinkish-brown silty-clay with frequent shattered mudstone subsoil (1202) which appeared to continue to the depth of the trench (Photo 16). A few sherds of modern glass and plastic container tops were recovered from the topsoil. No other deposits or archaeological features were identified.
- 5.14 The new overhead cable pole was erected immediately and a narrow trench was dug from the transformer pole to this new post to reveal the existing run of cables. The trench measured approximately 0.4m wide and around 0.6m deep. The trench largely truncated the original cable trench and consequently deposits which had already been largely disturbed. Nevertheless, around 0.35m of medium brown, friable loamy topsoil (1201) was removed to reveal the pinkish-brown silty-clay subsoil (1202) (Photo 17).

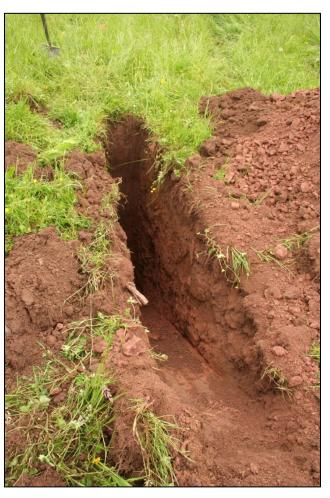


Photo 16: Post-hole T12 showing the depth of topsoil (1201) and pinkish-brown subsoil (1202) in section prior to the installation of the electricity pole (DAT Photo 4025-109382)



Photo 17: The adjoining cable trench excavated between the transformer pole (in the foreground) located at the north-east corner of field adjacent to Little Newhouse Farm, and the newly erected pole in T12 in the background. (DAT Photo 4036-109382).

6 CONCLUSIONS

- 6.1. This watching brief monitored the mechanical excavation of post-hole trenches for eight new overhead cable poles and two lengths of adjoining trenches for underground cabling at Princes Gate, Ludchurch, Pembrokeshire. Four of the cable poles required stays and the pits for these were also monitored (See Figure 7). Of these, four post-holes (and one stay pit) were excavated in the field located south of the Princess Gate Spring Water bottling plant in which three scheduled Bronze Age round barrows are situated (SAM PE178). The remainder of works was located in the field adjacent to, and west of Little Newhouse Farm. Here, post-holes for four new cable poles were excavated (along with two stay pits) and two lengths of trenching for the laying of underground cables (Figure 7).
- 6.2 Prior to the commencement of this watching brief, a large area of land to the east and south of the Princess Gate Spring Water bottling plant had been quarried away to form a level terraced area for new buildings. There appeared to be large swathes of reseeded grass within the margins of the quarried area and a large, a possible broad bund to the north-east of the excavation on which post-hole T1 was located. The sequence of deposits seen in this this trench revealed friable topsoil overlying silty-clay subsoil which appeared to be quite mixed in nature and may have been redeposited natural from the quarried area.
- 6.3 All of the post-hole trenches and stay pits were seemingly devoid of any archaeological features or deposits. The underground cable trench T11 located in the Little Newhouse Farm field truncated a boggy hollow revealing a sequence of gleyed (waterlogged) deposits attesting to the historic cartographic evidence that this area was once a spring or natural pond. Modern drain pipes and possible evidence of earlier land drains indicate that the area has been drained as an effort of land improvement for cultivation. Furthermore, the loamy nature of the topsoil in this field is further testament to improved agricultural practice. The remaining short length of cable trench between the original transformer post and the newly erected post T12 located in the north-east corner of the Little Newhouse Farm field revealed the disturbed fill of the original cable trenches.
- 6.4 Despite the proximity of the works to the scheduled Bronze Age barrow cemetery and possible standing stone, the watching brief did not reveal any significant archaeological remains. It should be noted that the extent of intrusive groundworks undertaken for this scheme, and thus the extent of the watching brief, was minimal, with only small pits and narrow trenches being excavated across the area. Thus, whilst the result of this watching brief is negative, it certainly does not negate the possibility of significant archaeology surviving elsewhere within the vicinity.

7. ACKNOWLEDGEMENTS

Fieldwork and reporting was undertaken by Menna Bell. The author would like to extend grateful thanks to Geraint John of Western Power for his assistance during this watching brief. The author would also like to thank the grounds men of Western Power and digger driver Sam and banksman Al for Balfour Beatty for their co-operation and assistance.

8. SOURCES

Published

British Geological Survey: http://mapapps.bgs.ac.uk/geologyofbritain/home.html (Accessed August 2016)

Cartographic

Ludchurch tithe map c.1841

Ordnance Survey; Pembrokeshire 1st edition 1:2500 1889 Ordnance Survey; Pembrokeshire 2nd edition 1:2500 1907

Database

Dyfed Archaeological Trust Historic Environment Record, housed with Dyfed Archaeological Trust in The Corner House, Llandeilo, Carmarthenshire, SA19 6AE

APPENDIX 1

NEW OVERHEAD CABLE POLES, PRINCES GATE SPRING WATER, LUDCHURCH, NARBERTH, PEMBROKESHIRE PLANNING APPLICATION 15/1184/PA ARCHAEOLOGICAL WATCHING BRIEF WRITTEN SCHEME OF INVESTIGATION

INTRODUCTION

This written scheme of investigation (WSI) has been prepared by DAT Archaeological Services in response to a request from Western Power to provide an archaeological scheme of works for a watching brief during the installation of new overhead cable poles to the southeast of Newhouse Farm, Ludchurch, Pembrokeshire (Figures 1 & 2). The route runs from approximately NGR SN 15577 11534 to SN 16219 11693 (west to east). Part of the cable run will be placed in an underground cable. The route will replace an existing set of cables closer to buildings associated with Newhouse Farm. The new cable run is located directly north of three Bronze Age round barrows, all of which are scheduled ancient monuments (PE178).

The Dyfed Historic Environment Record (HER) was searched for known archaeological sites within 500m of the centre of the proposed new cable run, which returned 9 known sites. All but one of these sites relates to the Newhouse Round Barrow Cemetery, including the three scheduled round barrows Newhouse 'A' (PRN 3792); Newhouse 'B' (PRN 3793); Newhouse 'C' (PRN 3794); which all form part of the scheduled barrow group PRN 47435). Two further possible round barrows are also present forming part of the overall barrow cemetery group (PRN 8309 and PRN 12873) which both lie to the east of the three scheduled barrows. A former standing stone lay adjacent to the road line to the south of the three scheduled barrows (Newhouse 'D' PRN 3795). The stone has been moved and is no longer visible. The entire group of prehistoric monuments, all of which date to the Bronze Age is also recorded (PRN 47436). A small defended enclosure visible as a cropmark is thought to lie to the northwest of Newhouse Farm (PRN 52390).

As a consequence of this the archaeological advisor to the local planning authority as (Planning Services of the Dyfed Archaeological Trust) has requested that an archaeological watching brief is undertaken during the groundworks associated with the installation of the new overhead cables. The archaeological potential for remains associated with the barrow cemetery to be present in the location of the new poles is high. Such remains could take the form of ring ditches form other round barrow burial sites or even a cremation cemetery associated with but surrounding the barrow sites.

This written scheme of investigation outlines the methodology through which DAT Archaeological Services would undertake an archaeological watching brief during ground works at the site, which have the potential to expose, damage or destroy archaeological remains. This document has been prepared for the client and is specifically prepared for DAT Archaeological Services to undertake the required archaeological works. The WSI cannot be used by any third party.

The written scheme of investigation is in accordance with the *Standard and Guidance for Archaeological Watching Briefs* (Chartered Institute for Archaeologists (CIfA), 2014). DAT Archaeological Services has considerable experience of this type of project and always operates to best professional practice. DAT Archaeological Services is the contractual arm of Dyfed Archaeological Trust that has its own Health and Safety Policy, and all works are covered by appropriate Employer's Liability and Public Liability Insurances. Copies of all are available on request. Dyfed Archaeological Trust is a CIfA Registered Organisation. All permanent staff are CSCS registered.

3792	Newhouse (West); Newhouse "A" Round Barrow	One of at least 4, and possibly 5, round barrows at Newhouse, and the most westerly of the group. This circular mound, measures c.22m in diameter x 1.3m high. It is in a good state of preservation. Part of scheduled ancient monument PE178.	Bronze Age	SN1571611422
3793	Newhouse (East); Newhouse "B" Round Barrow	One of at least 3, and possibly 5, round barrows at Newhouse, and the middle barrow of the 5. This turf-covered circular mound measures 28m in diameter x c.1.4m high. It has been damaged in the past. Part of scheduled ancient monument PE178.	Bronze Age	SN1598911468
3794	Newhouse (Central); Newhouse "C" Round Barrow	A much-reduced round barrow, part of the Newhouse group, located between two scheduled barrows, PRNs 3792 and 3793. This has been significantly impacted upon in the past.	Bronze Age	SN1587211470
3795	Little Newhouse; Newhouse "D" Standing Stone	A once prostrate standing stone at Newhouse, moved to the field boundary by 1975, and which has now disappeared.	Bronze Age	SN1585011391
8309	Newhouse Round Barrow, Ring Barrow	A possible ring barrow or round barrow identified as a cropmark site from aerial photographs. The site is not visible on the ground but is vaguely discernible from an elevated position on the hedgebank. It ahs been significantly impacted upon in the past.	Bronze Age	SN16021145
12873	Newhouse Round Barrow	No trace was found of this possible round barrow, which may be an outlier to the Newhouse barrow group, when visited in 2003. Possibly destroyed.	Bronze Age	SN16191149
47435	Newhouse Round Barrow Group Round Barrow Cemetery	Group PRN for the round barrows of the Newhouse round barrow group. Forms scheduled ancient monument PE178.	Bronze Age	SN15901150
47436	Newhouse Prehistoric Monument Complex Prehistoric Monument Complex	Group PRN for the collection of prehistoric monuments at Newhouse, consisting of 4 round barrows (PRNs 3792-4 & 12873), a standing stone (PRN 3795) and a possible ring/round barrow recorded from cropmark evidence (PRN 8903). Forms scheduled ancient monument PE178.	Bronze Age	SN15901150
52390	New House Defended Enclosure	A possible defended enclosure in fields neighbouring Newhouse Farmstead. The site, identified on aerial photographs appears as dark cropmarks indicating ditches, but part of the outer enclosure in the south may be perpetuated by the present hedge boundary.	Unknown	SN15511176

Table 1: Sites recorded on the Dyfed Historic Environment Record within a 500m radius of the centre of the proposed overhead cable run

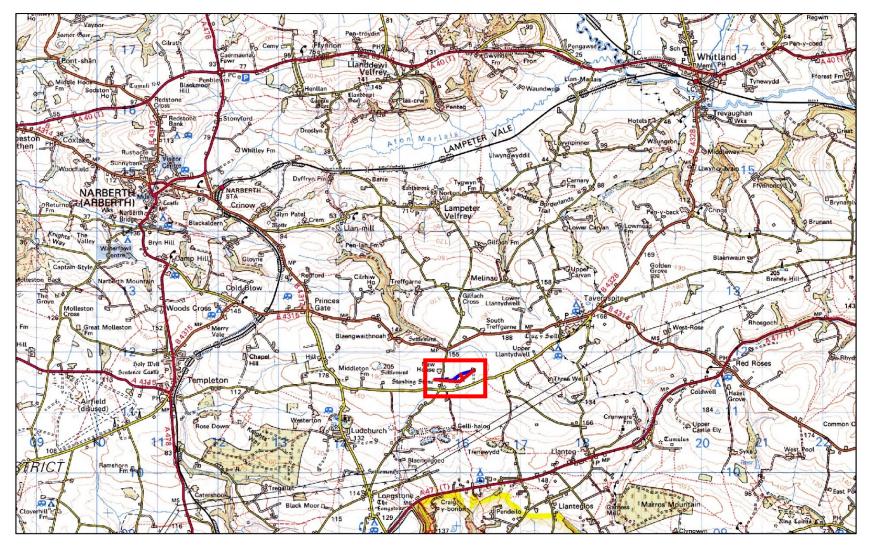


Figure 1: Site location plan showing area of new cable run, Newhouse Farm, Princes Gate, Pembrokeshire

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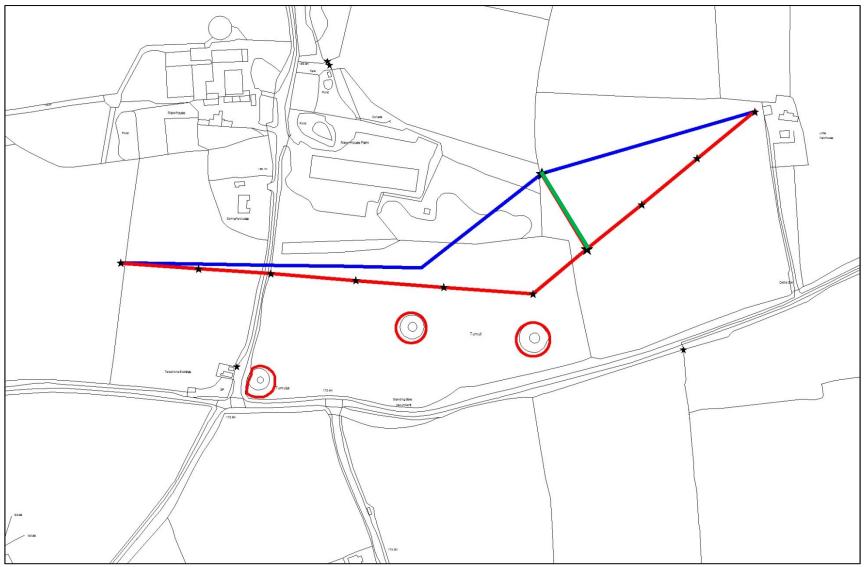


Figure 2: Proposed route of new overhead cables (red line) and underground cable (green) replacing a series of existing posts close to farm buildings (blue) (based on information supplied by Western Power). The stars on the red cable route are the locations of poles.

The round circles are the three scheduled barrows PE178

1. WATCHING BRIEF

- 1.1 The definition of archaeological watching brief, taken from the Chartered Institute for Archaeologists Standards and Guidance: for Archaeological Watching Briefs (CIfA S&G: AWB 2014) is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.
- 1.2 The purpose of a watching brief, as laid down in the CIfA S&G AWB is:

to allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works;

to provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment.

1.3 This document provides a scheme of works for: Archaeological attendance during ground works associated with the erection of new overhead electric cables and excavation of a new underground cable on land to the south of Newhouse Farm, Princes gate, Pembrokeshire which are likely to expose, damage or destroy archaeological remains. Appropriate investigation and recording of any such remains will be undertaken if revealed. A report and archive of the results of the works will be prepared.

2. PROJECT OBJECTIVES

- 2.1 Provision of a written scheme of investigation to outline the methodology by which DAT Archaeological Services will undertake the archaeological watching brief.
- 2.2 To monitor ground works in order to identify the presence/absence of any archaeological deposits.
- 2.3 To establish the character, extent and date range for any archaeological deposits to be affected by the proposed ground works.
- 2.4 To appropriately investigate and record any archaeological deposits to be affected by the ground works.
- 2.5 To produce an archive and report of any results.

3. FIELDWORK

- 3.1 The watching brief would entail an archaeologist being present during all ground works where there is a potential for archaeological remains to be exposed, damaged or destroyed. This will be carried out during any groundworks associated with the erection of the new overhead cables. This could include topsoil stripping for new access roads or storage areas, contractor's compounds, working areas around the pole locations, excavation of post-holes for the poles and excavation of trenches for underground cabling.
- 3.2 It is essential coordination between the site contractor's and archaeologist is established at the outset to avoid any potential disturbance to archaeology

- without an archaeologist being present, or unnecessary visits to the site when works are being carried out that do not require the presence of an archaeologist.
- 3.3 Adequate time must be made available to the visiting archaeologist to ensure that appropriate recording can be undertaken of any archaeological features or deposits exposed during ground works.
- 3.4 Recording of all archaeological features or deposits will conform to best current professional practice and be carried out in accordance with the Recording Manual³ used by DAT Archaeological Services. Significant archaeological features or deposits will be drawn at a suitable scale (no less than 1:20) and photographed in an appropriate format.
- 3.5 All archaeologically significant finds will be retained and, where possible, related to the contexts from which they derived. Finds will be temporarily stored by DAT Archaeological Services in stable conditions. All finds, except those deemed to be Treasure, will remain the property of the landowner.
- 3.6 Under the 1996 Treasure Act, "treasure" can be summarised as:
 - Any object other than a coin containing at least 10% gold or silver and at least 300 years old;
 - Any prehistoric assemblage of base metal;
 - Coins found together which contain 10% gold or silver (but no single coins) and groups of at least 10 coins of other metals, provided they are at least 300 years old;
 - Any object found associated with treasure except unworked natural objects; and
 - Any object which would have been Treasure Trove before the 1996 Act but not covered above.
- 3.7 In the event that unforeseen archaeological discoveries are made during the development, or that archaeological remains of high significance are exposed, DAT Archaeological Services shall have the power to halt any ground works and shall inform the site agent/project manager and the curatorial officer, and prepare a written statement with plan detailing the archaeological evidence. Following assessment of the archaeological remains by the curatorial officer, DAT Archaeological Services shall, if required, implement on behalf of the Client a contingency scheme for salvage excavation of affected archaeological features. In these instances it would be necessary to employ extra resources to record such features to an appropriate standard.
- 3.8 In the event that human remains are encountered, the District Coroner's Office and the Police will be notified immediately. All human remains will, where possible, be left *in situ*. If preservation *in situ* is not possible all statutory permissions will be obtained in writing before removal begins. This would include the scenario where Bronze Age burials were identified.

4. POST-FIELDWORK REPORTING AND ARCHIVING

4.1 All data recovered during the fieldwork will be collated into a site archive structured in accordance with the specifications in *Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation* (Brown 2011), and the procedures recommended by the National Monuments Record, Aberystwyth.

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³ DAT Archaeological Services have adopted the Recording Manual developed by English Heritage Centre for Archaeology. A copy will be available on-site for inspection if required.

- 4.2 The results of the fieldwork will be assessed in local, regional and wider contexts. The report will include a desk-based research element to ensure that the site is placed within its wider archaeological context. A report that is fully representative of the results of the fieldwork will be prepared and digital and hard copies will be sent to the client for dissemination to all relevant parties.
- 4.3 A summary of the project results, excluding any confidential information, may be prepared for wider dissemination (e.g. Archaeology in Wales and special interest and period-specific journals).
- 4.4 The project archive, including all artefacts and ecofacts (excepting those which may be deemed to be Treasure) will be deposited with an appropriate body following agreement with the landowner.
- 4.5 A copy of the final report will be deposited with the regional HER within six months of the completion of the project.

5. STAFF

- 5.1 This project will be managed by James Meek, Head of DAT Archaeological Services.
- 5.2 Archaeological attendance during the watching brief will be undertaken by staff drawn from the team of archaeologists employed by DAT Archaeological Services.

6. MONITORING

6.1 The fieldwork may need to be monitored by the archaeological advisors to Western Power and the Head of DAT Archaeological Services, who should be provided access to the site at any time during the watching brief works.

7. HEALTH AND SAFETY

- 7.1 All DAT Archaeological Services staff are CSCS⁴ registered.
- 7.2 DAT Archaeological Services will carry out a health and safety risk assessment to ensure that all potential risks are minimised.
- 7.3 All relevant health and safety regulations must be followed.
- 7.4 All site inductions, H&S procedures and site rules of the site contractor will be made known to DAT Archaeological Services staff prior to them commencing work on-site.
- 7.5 Safety helmets, safety boots and high visibility vests are to be used by all site personnel as necessary. The site contractors will make all archaeological staff aware of any other PPE⁵ that may be required and provide them. Archaeological staff must not enter any area where there is a considered to be a health and safety risk that has not or is not being appropriately mitigated against.
- 7.6 DAT Archaeological Services staff must ensure that their presence on site is communicated to all relevant site staff, especially machine operators.

⁴ Construction Skills Certification Scheme (Health and Safety Tested)

⁵ Personal Protection Equipment

APPENDIX 2

Project Archive

Project Number: FS15-108

ERN: 109382

3 x Watching Brief Form

60 Digital photographs, Film Number 109382

1x Photo catalogue

1 x MapInfo GIS table showing post-hole locations

Context Register

Context	Trench	Description
101	T1	Reddish-brown friable silt topsoil
	T1	Pinkish-brown silty-clay subsoil with frequent shattered mudstone
102	' -	of mixed sizes ranging from gravel to boulders.
301	T3	Dark brown silty topsoil
	T3	Fairly compact pinkish clayey-silt subsoil with frequent gravel to
302		pebbled sized shattered mudstone
401	T4	Brownish-pink loamy topsoil
402	T4	Pinkish clayey-silt with shattered mudstone subsoil
501	T5	Reddish-brown loamy topsoil
502	T5	Pinkish-brown silty-clay with common mudstone gravel subsoil
503	T5	Shattered mudstone natural
801	T8	Medium brown silty topsoil
802	T8	Fairly compact pinkish-brown clayey-silty with frequent mudstone
802		gravels subsoil
803	T8	Shattered mudstone natural
901	T9	Medium brown – reddish silty topsoil
902	T9	Pinkish-brown silty-clay subsoil
903	T9	Shattered purple mudstone natural
1001	T10	Medium brown-reddish, friable topsoil
1002	T10	Pinkish-brown silty-clay with frequent gravel mudstone subsoil
1003	T10	Purple shattered mudstone natural
1101	T11	Pinkish-brown friable silt
1102	T11	Gleyed, silty-clay deposits
1103	T11	Pinkish clay subsoil with frequent mudstone gravel
1104	T11	Shattered, purplish-pink mudstone natural
1201	T12	Medium brown, friable loamy topsoil
1202	T12	Pinkish-brown silty-clay with frequent shattered mudstone subsoil

NEW OVERHEAD CABLE POLES, PRINCESS GATE SPRING WATER, LUDCHURCH, NARBERTH ARCHAEOLOGICAL WATCHING BRIEF

DYFED ARCHAEOLOGICAL TRUST

RHIF YR ADRODDIAD / REPORT NO. 2016/44 RHIF Y DIGWYLLIAD / EVENT RECORD NO. 109382

Medi 2016 September 2016

Paratowyd yr adroddiad hwn gan / This report has been prepared by:

MENNA BELI	М	EN	NN.	A B	EL	L
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Swydd / Position: Archaeologist

Llofnod / Signature Date: 04/08/2016

Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith This report has been checked and approved by

JAMES MEEK

ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf. on behalf of Dyfed Archaeological Trust Ltd.

Swydd / Position: HEAD OF DAT ARCHAEOLOGICAL SERVICES

Llofnod / Signature Junton Music

Date: 16/09/2016

Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau sydd gennych ar gynnwys neu strwythur yr adroddiad hwn

As part of our desire to provide a quality service we would welcome any comments you may have on the content or presentation of this report



