White Hill Wind Farm Electricity Substation & Electricity Line

Environmental Impact Assessment Report

Annex 10.2: Test Trenching Report

White Hill Wind Limited

Galetech Energy Services
Clondargan, Stradone, Co. Cavan Ireland
Telephone +353 (0)49 555 5050
www.galetechenergyservices.com

HORIZON ARCHAEOLOGY

TEST TRENCHING REPORT

SHANKILL TOWNLAND,

PAULSTOWN,

COUNTY KILKENNY

PREPARED FOR:

WHITE HILL WIND LTD.

LICENCE NUMBER: 24E0983

LICENSEE: MARCIN SAWICKI

12th NOVEMBER 2024

Contents

List of Figures

List of Plates

1 INTRODUCTION

1.1 General

This Archaeological Assessment has been prepared on behalf of White Hill Wind Ltd. to assess and define the impact, if any, on the archaeological resource of the construction of an electricity substation, including all associated electrical apparatus, located in the townland of Shankill, Paulstown, County Kilkenny (Figure 1; Ordnance Survey sheet 16).

The report integrates results of Licensed test trenching (Licence Number 24E0983) with detailed information on the archaeological and historical background of the wider development area. This includes information from the Record of Monuments and Places (RMP) of County Kilkenny (Figure 4), Topographical Files of the National Museum of Ireland, cartographic sources, documentary records, aerial photographs and previous archaeological fieldwork. A 1km study area has been imposed around the area of land take.

An impact assessment and mitigation strategy has been prepared. The impact assessment is undertaken to outline any adverse effects the development may have on the archaeological resource, while the mitigation strategy is designed to avoid, reduce or offset any potential adverse effects.

1.2 The Development

The development will consist of the construction of an electricity substation, including all associated electrical apparatus, located in the townland of Shankill, Paulstown, County Kilkenny. The substation compound will measure approximately 160m x 145m, including a temporary compound area and 2 no. spoil deposition berms (figure 2).

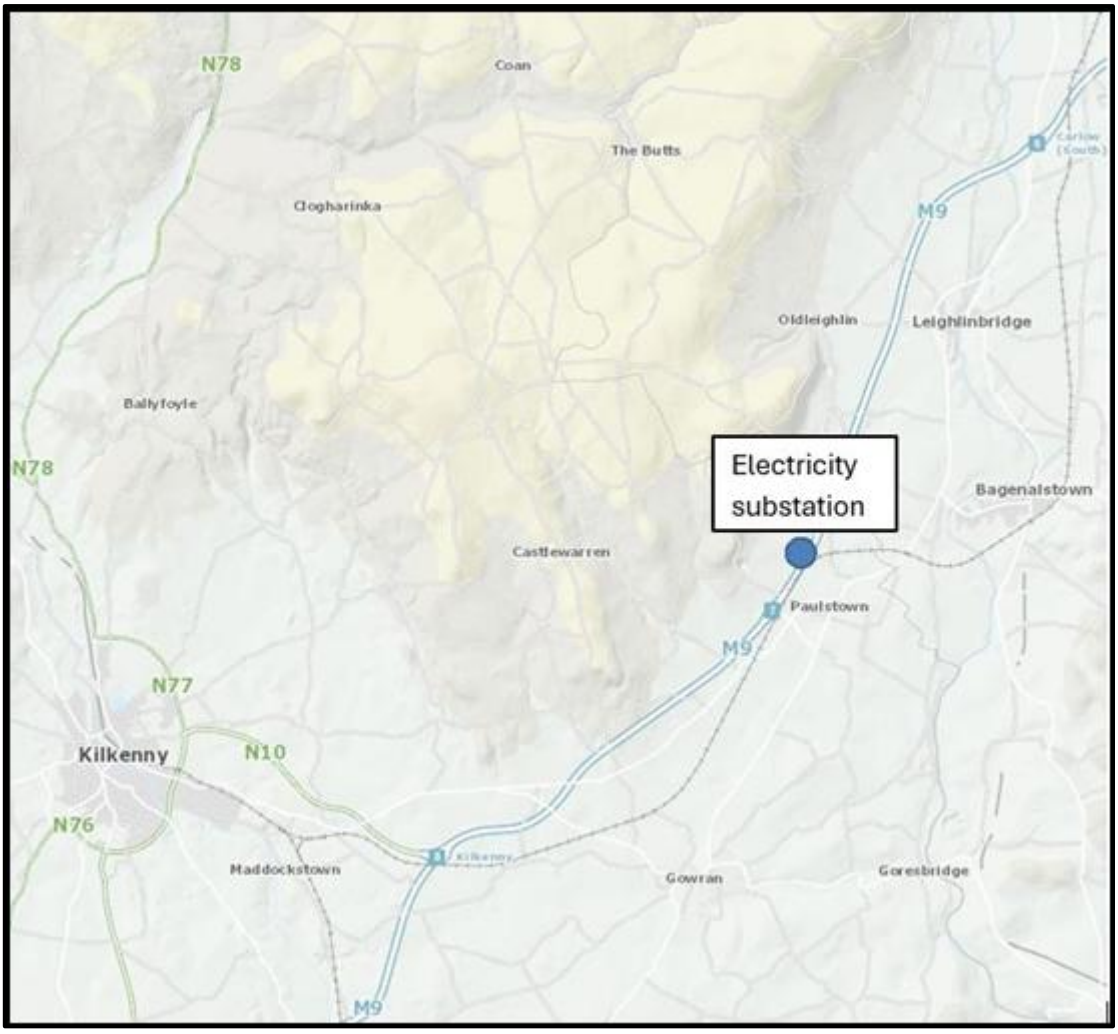

Figure 1: Site location

1.3 Planning Background

A letter (dated 24th April 2024) was received from Development Applications Unit, Department of Housing, Local Government and Heritage. The letter states that:

> "*The Department has reviewed the 'Preliminary Environmental Impact Assessment Scoping Report' for the proposed White Hill Wind Farm Electricity Substation & Grid Connection.*
>
> *The information provided was not sufficiently detailed to allow for a full assessment of the archaeological implications of this proposal, however it is noted that an Archaeological Impact Assessment is scoped into the proposed Environmental Impact Assessment (EIA) process; this must be carried out by a suitably qualified Consultant Archaeologist.*

The Department advises that the following are carried out as part of the Archaeological Impact Assessment:

- *The planned desk-study must be supported by a field inspection regime and should inform (as appropriate):*
- *Targeted non-intrusive advance geophysical survey or prospection (such as Ground Penetrating Radar Surveys)*
- *Targeted advance archaeological test excavation*
- *Targeted underwater archaeology surveys or wade surveys*
- *Targeted built heritage surveys*

It is essential that the baseline archaeological and cultural heritage environment is fully defined and well-characterised".

A stream (unnamed) is located at the northern boundary of the substation, adjacent to the proposed site entrance. Horizontal Directional Drilling (HDD) will be undertaken at this location, and the use of this methodology will avoid any in-stream works or any direct or indirect effect on the morphology of the stream.

1.4 Project Team

Marcin Sawicki UAM BA (Hons)

This Archaeological Assessment has been prepared by Marcin Sawicki. Marcin graduated from Adam Mickiewicz University, Poznan, Poland and entered the commercial archaeological sector in Ireland in 2006.

Marcin has worked on more than 40 archaeological fieldwork projects in the role of Site Assistant, monitoring archaeologist and Supervisor. He has participated in completing more than 20 archaeological and architectural heritage desk-based reports and Archaeological Impact Assessment Reports.

Dermot Nelis BA ArchOxon AIFA MIAI

Dermot Nelis graduated from Queen's University Belfast, and after gaining extensive fieldwork experience undertook postgraduate studies at the University of Oxford in archaeological consultancy and project management.

Dermot has acted as Senior Archaeologist on several road schemes for various County Councils, and Directed large-scale multi-period excavations associated with those developments. He has completed over 180 Licensed fieldwork programmes and over 250

archaeological, architectural and cultural heritage desk-based reports and Environmental Impact Assessment Reports.

Figure 2: Site layout

Figure 3: Aerial photograph showing the development area and RMP KK016-006 (linear earthwork) located approximately 45m south of the development area

2 BASELINE ENVIRONMENTAL STUDY

2.1 Methodology

Background research has been carried out in three phases. The first phase involved geophysical survey. The second phase consisted of a paper and digital survey of archaeological, historical and cartographic sources. The third phase involved a field inspection of the development area.

2.2 Geophysical survey

A geophysical survey (Detection Licence no. 24R0294) was carried out by John Nicholls MSc within the development area in June 2024. The survey was undertaken to locate and identify any potential archaeological responses within the area of land take. In summary, the geophysical survey revealed one feature (Geophysical Anomaly C, figure 9) of possible archaeological significance. This feature will be preserved *in situ* in its entirety.

2.3 Data Sources

The following sources were examined, and a list of sites and areas of archaeological potential was compiled:

- Record of Monuments and Places of County Kilkenny;
- Topographical Files of the National Museum of Ireland;
- Cartographic and documentary sources relating to the study area; and
- Aerial photographs of Ordnance Survey Ireland and Bing aerial photography.

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Service. Back-up files of the Sites and Monuments Record (SMR) provide details of documentary sources and field inspections where these have taken place.

Topographical Files of the National Museum of Ireland is the archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts, but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information in the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within an area of land take, as well as providing important topographical information on sites and areas of archaeological potential. Cartographic analysis of relevant maps has been made to identify any topographical anomalies that may no longer remain within the landscape. Documentary

sources were consulted to gain background information on the historical and archaeological landscape of the proposed development area.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its potential to contain previously unidentified archaeological remains.

2.4 Field Inspection

Field inspection is necessary to determine the extent, character and condition of archaeological remains, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. A site visit was carried out on 22nd May 2024, and all areas of land take were walked and visually assessed.

3 GENERAL ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

During the Mesolithic period (*c*. 7000–4000 BC) people existed as hunters/gatherers, living on the coastline, along rivers and lakesides. They used flint and other stones to manufacture sharp tools, and locating scatters of discarded stone tools and debris from their manufacture can sometimes identify settlements. Their impact on the landscape was minimal, and the limited amount of evidence includes the remains of timber houses and primitive stone tools.

The population became more settled during the Neolithic period (*c*. 4000-2400 BC) with a subsistence economy based on crop growing and stock-raising. This period also saw changes in burial practices, and a tradition of burying the dead collectively and carrying out of cremations emerged. The tombs are generally divided into four distinct groups, identified on the basis of their architecture, distribution and date range: portal tombs, passage tombs, wedge tombs and court tombs.

The Bronze Age (*c*. 2400-600 BC) is characterised by the introduction of metalworking technology to Ireland and coincides with many changes in the archaeological record, both in terms of material culture as well as the nature of the sites and monuments themselves. Though this activity has markedly different characteristics to that of the preceding Neolithic period, including new structural forms and new artefacts, it also reflects a degree of continuity.

During the Iron Age (*c*. 600 BC-400 AD) new influences came into Ireland which gradually introduced the knowledge and use of iron, although for several centuries bronze continued to be widely used. The Iron Age in Ireland however is problematic for archaeologists as few artefacts dating exclusively to this period have been found, and without extensive excavation it cannot be determined whether several monument types, such as ring-barrows or standing stones, date to the Bronze Age or Iron Age.

The Early Medieval period (*c*. 400-1169 AD) is depicted in the surviving sources as entirely rural, characterised by the basic territorial unit known as *túath.* Walsh (2000, 30) estimates that there were at least 100, and perhaps as many as 150, kings in Ireland at any given time during this period, each ruling over his own *túath.*

The new religious culture brought changes in settlement and agricultural patterns. The ringforts and associated field patterns of the Early Medieval period indicate a life largely based on grazing. During this turbulent period roughly circular defensive enclosures known as ringforts were constructed to protect farmsteads. They were enclosed by an earthen bank and exterior ditch, and ranged from approximately 25m to 50m in diameter. The smaller sized and single banked type (univallate) was more than likely home to the lower ranks of society, while larger examples with more than one bank (bivallate/trivallate) housed the more powerful kings and

lords. They are regarded as defended family homesteads, and the extant dating evidence suggests they were primarily built between the 7th and 9th centuries AD (Stout 1997, 22-31). Ringforts are considered to be the most common indicator of settlement during the Early Medieval period.

The most recent detailed study (*ibid*., 53) has suggested that there is an approximate total of 45,119 potential ringforts or enclosure sites throughout Ireland.

Enclosure sites belong to a classification of monument whose precise nature is unclear. Often they may represent ringforts, which have either been damaged to a point where they cannot be positively recognised, or are smaller or more irregular in plan than the accepted range for a ringfort. An Early Medieval date is generally likely for this site type, though not a certainty.

The Early Medieval period is also characterised by the foundation of a large number of ecclesiastical sites throughout Ireland in the centuries following the introduction of Christianity in the 5th century. The early churches tended to be constructed of wood or post-and-wattle. Between the late 8th and 10th centuries mortared stone churches gradually replaced the earlier structures. Many of the sites, some of which were monastic foundations, were probably originally defined by an enclosing wall or bank similar to that found at coeval secular sites. This enclosing feature was probably built more to define the sacred character of the area of the church than as a defence against aggression. An inner and outer enclosure can be seen at some of the more important sites; the inner enclosure surrounding the sacred area of church and burial ground and the outer enclosure providing a boundary around living quarters and craft areas. Where remains of an enclosure survive it is often the only evidence that the site was an early Christian foundation.

The commencement of Viking raids at the end of the 8th century and their subsequent settlement during the following two centuries marked the first ever foreign invasion of Ireland. Viking settlement evidence is scarce and has been found in Cork, Dublin and Waterford, however excavations there have revealed extensive remains of the Viking towns. Outside these towns understanding of Viking settlement is largely drawn from documentary and place-name evidence. In addition to Cork, Dublin and Waterford, documentary sources provide evidence for the Viking foundation of the coastal towns of Limerick and Wexford (Edwards 2006, 179). Other indirect evidence which suggest Viking settlement, or at least a Norse influence in Ireland, is represented by upwards of 120 Viking-age coin hoards, possible votive offerings of Viking style objects and the assimilation of Scandinavian art styles into Irish design. While the initial Viking raids would have been traumatic, the wealth and urban expansion brought into the country as a result of Viking trading would have benefited the Gaelic Irish and cultural assimilation in some parts would have been significant.

The arrival of Anglo-Normans in Ireland towards the end of the 12th century caused great changes during the following century. Large numbers of colonists arrived from England and Wales and established towns and villages. They brought with them new methods of agriculture which facilitated an intensification of production. Surplus foods were exported to markets all along Atlantic Europe which created great wealth and economic growth. Results of this wealth can be seen in the landscape in the form of stone castles, churches and monasteries.

The political structure of the Anglo-Normans centered itself around the establishment of shires, manors, castles, villages and churches. In the initial decades after the Anglo-Norman invasion a distinctive type of earth and timber fortification was constructed- the motte and bailey. Mottes were raised mounds of earth topped with a wooden or stone tower while the bailey was an enclosure, surrounded by an earthen ditch with a timber palisade, used to house ancillary structures, horses and livestock.

In certain parts of Ireland Anglo-Norman settlers constructed square or rectangular enclosures, now termed moated sites. Their main defensive feature was a wide, often water-filled, fosse with an internal bank. As in the case of ringforts, these enclosures protected a house and outbuildings usually built of wood. They appear to have been constructed in the latter part of the 13th century, although little precise information is available.

More substantial stone castles followed the motte and bailey and moated sites in the 13th and 14th centuries. Tower houses are regarded as a late type of castle and were erected from the 14th to early 17th centuries. Their primary function was defensive, with narrow windows and a tower often surrounded by a high stone wall (bawn). An Act of Parliament of 1429 gave a subsidy of £10 to "*liege*" men to build castles of a minimum size of 20ft in length, 16ft in breadth and 40ft in height (6m x 5m x 12m). By 1449 so many of these £10 castles had been built that a limit had to be placed on the number of grants being made available. The later tower houses were often smaller, with less bulky walls and no vaulting.

The 14th century throughout north west Europe is generally regarded as having been a time of crisis, and Ireland was no exception. Although the Irish economy had been growing in the late 13th century, it was not growing quickly enough to support the rapidly expanding population, especially when Edward I was using the trade of Irish goods to finance his campaigns in Scotland and Wales. When the Great European Famine of 1315-1317 arrived in Ireland, brought about by lengthy periods of severe weather and climate change, its effects were exacerbated by the Bruce Invasion of 1315-1318. Manorial records which date to the early 14th century show that there was a noticeable decline in agricultural production. This economic instability and decline was further worsened with the onset of the Bubonic Plague in 1348.

Before the Tudors came to the throne the kings of England were also the kings of western France and so, during the 14th and 15th centuries, the various lords who ruled in Ireland were largely left to themselves. The Tudor conquest however brought a much greater interest in the affairs of Ireland. They wanted to put a stop to the raids of the Gaelic Irish on the areas under English rule. To do this, they ruthlessly put down any rebellions and even quashed inter-tribal feuds. English settlers were then brought in to settle their lands. The first of these plantations occurred in the mid-16th century in what is now Laois and Offaly. After the Desmond rising in Munster in 1585 AD came another plantation, and parts of south western Tipperary were planted at that time.

From 1593 until 1603 there was a countrywide war between the Gaelic Irish, who were supported by the French, and the Elizabethan English. The Irish were finally defeated and with the "*Flight of the Earls*" from Rathmullan, County Donegal in 1607 Ulster, which had previously been independent of English rule, was planted.

Expansion in the agricultural sector following a period of economic growth in Ireland from the mid-1730s led to rising prices and growth in trade. This increase in agricultural productivity resulted in growth in related industrial development throughout the country.

3.1 Site-Specific Archaeological Background

There are no Recorded Monuments within the proposed development area.

There is one Recorded Monument (RMP KK016-006: linear earthwork) located approximately 45m south of the development area (figure 3). It is confirmed that the development will have no direct impact on RMP KK016-006: linear earthwork.

RMP KK016-006: linear earthwork

RMP KK016-006 is recorded (www.archaeology.ie) as a linear boundary extending for approximately 5km from Kellymount Hill, on the south east edge of the Castlecomer Plateau, south eastward to the River Barrow. The boundary, known as the "*Rathduff Trench*", is indicated on an early 17th century barony map of Idrone published by Gerard Mercator (1606 - 1641). The linear earthwork formed part of the north west boundary of the Carlow barony, which at that stage extended into what has become part of the modern county of Kilkenny. The Ordnance Survey Letters of 1839 refer to this trench as having similar traditions as those associated with the Black Pig's Dyke and that though, "*it is nearly blotted off the face of the land; but if the fragment of it which remains and the forts which were on it be marked [on the OS map], its outline will be well preserved*'". The Ordnance Survey Letters record that the earthwork was known locally as "*the Gripe of the Pig*", and according to local legend "*a poor widow living here in olde times had a pig which ran away from her into a subterraneous*

passage and that all the neighbours came to dig her out, but that they did not catch her until they had dug down to the Barrow. The "Gripe" they cut on this occasion and the stuff they threw up were visible about six generations ago, but the progress of cultivation has effaced both except a small part at Kellymount, where the trench (gripe) is still faintly traceable" (www.archaeology.ie).

A portion of this earthwork (RMP KK016-006) in Shankill townland was excavated as part of archaeological excavations for the Cork-Dublin gas pipeline (1981 - 1982) (O'Flaherty 1987). Pre-excavation the earthwork was visible as a low bank (H 0.7m) with a fosse (Wth 1.1m; D 1.2m) to the south. However, excavation revealed that the bank had been disturbed when the fosse was recut in 1954 by the Land Commission as part of a drainage scheme. The original fosse had been 5m wide and 0.9m deep. There was no dating evidence from the excavation. Other portions of this possible linear earthwork (RMP KK016-006001 and RMP KK016-006002), though not following the same axis, were identified east of the railway line in Shankill Castle demesne.

There are an additional 17 no. Recorded Monuments within 1km of the electricity substation (figure 4). These include a ring-ditch (RMP KK016-023); an excavation revealing a prehistoric pit (RMP KK016-018); 3 no. *fulacht fiadh* (RMP KK016-019, RMP KK016-020 and RMP KK016-022); 2 no. burnt spreads (RMP KK016-002 and RMP KK016-003); a corn-drying kiln (RMP KK016-021); a metalworking site (RMP KK016-024); a linear earthwork (RMP KK016-006001); a ringfort (RMP KK016-004); 2 no. enclosures (RMP KK016-007 and RMP KK016-026); a church (RMP KK016-008001); a graveyard (RMP KK016-008002); a tower house (RMP KK016-012) and a redundant record (RMP KK016-005).

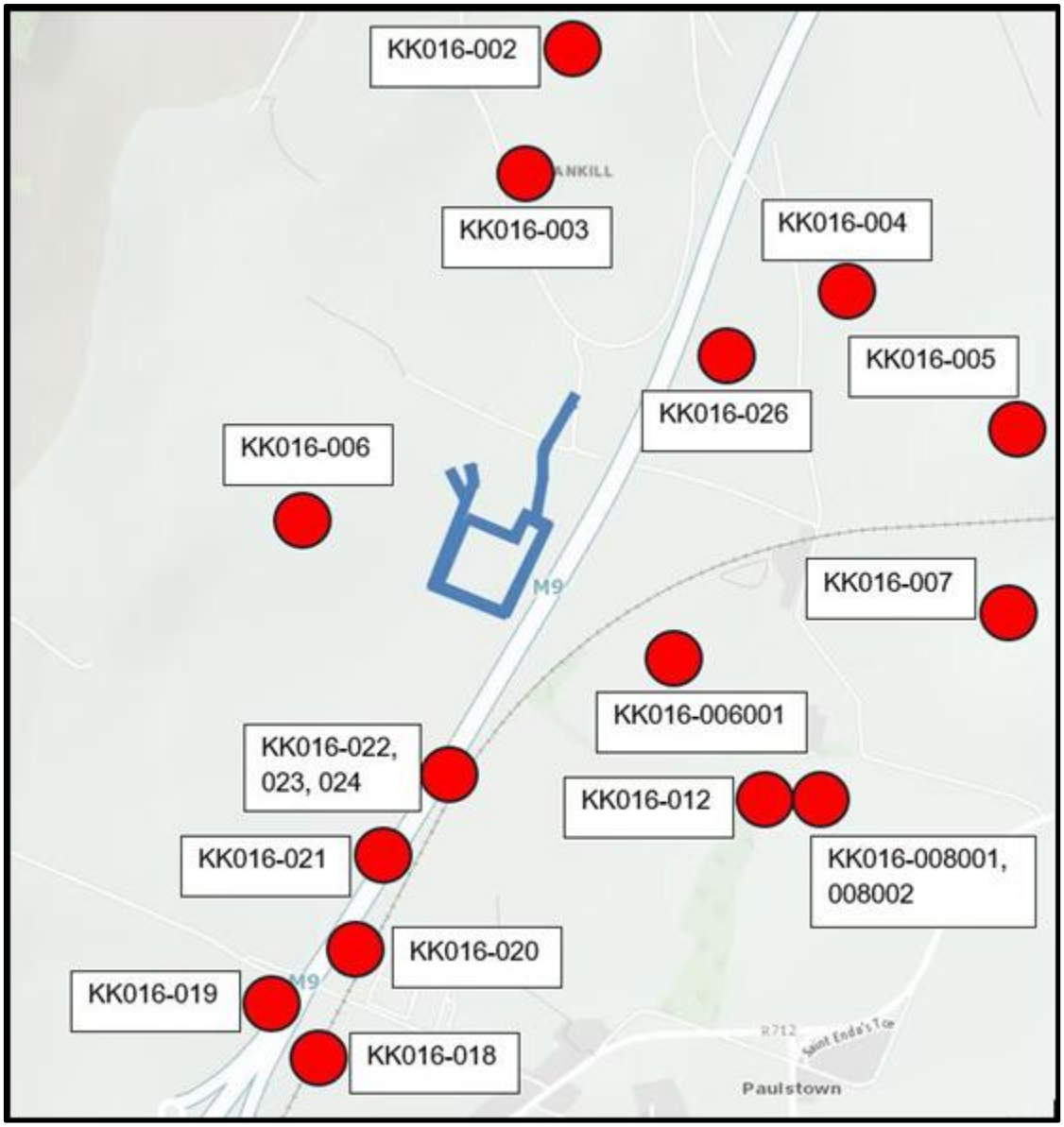

Figure 4: RMP sites within the 1km study area

3.2 Toponyms

Townland names are important in understanding the archaeology, geology, land-use, ownership and cultural heritage of an area.

Shankill translates from *An tSeanchill* as Old Church (www.logainm.ie).

3.3 Topographical Files of the National Museum of Ireland

Information on artefact finds and excavations from County Kilkenny is recorded by the National Museum of Ireland. Location information relating to such finds is important in establishing prehistoric and historic activity in the study area.

There is a Topographical File record (no reference) to a stone axehead found in Shankill townland. The axehead is in private possession, and it is noted as having been found in a tillage field at "*Black Acre*".

There are no additional entries recorded in the Topographical Files for Shankill townland.

3.4 Summary of Previous Fieldwork in the Study Area

RMP KK016-006 (linear earthwork) is located approximately 45m south of the development area. Fieldwork was carried out on this monument in October 2007 as part of archaeological works for the N9/N10 Kilcullen to Waterford Road Scheme (Irish Archaeological Consultancy 2012).

The site, known as Shankill 1, was identified as the "*Rathduff Dyke*" by Jeremy Milin, who researched linear earthworks in Ireland (O'Flaherty 1987). The earthwork was inspected during the testing phase of the N9/N10 and appeared no different from the normal field boundaries in the area. It consisted of a bank and a ditch and was linear in extent. It extended for 2km from the slope of the hills to the north to the modern railway line. It is not traceable on the ground beyond the railway line to the south east, nor is it marked on any editions of the Ordnance Survey maps of the area.

An area measuring approximately 10m wide was opened and assessed on either side of the possible linear earthwork, but it revealed nothing except for a number of plough marks and gullies running towards the ditch. Features recorded on either side of the boundary were interpreted as being associated with drainage and are not of archaeological significance. The ditch portion of the boundary was identified as having a maximum width of 2.25m and was 1.0m deep. It contained one shallow deposit suggesting it had been regularly cleaned to assist drainage. The bank was located on the south side of the ditch and was heavily overgrown with mixed species of trees and hedgerow. It had maximum dimensions of 3.0m wide at the base and was 1.0m high. The ditch had a concave profile and the bank was convex with no evidence for revetting.

The excavation at Shankill 1 confirmed the presence of a linear boundary formed by a ditch and bank. No features of archaeological significance were recorded on either side of the boundary, and nothing was identified within the components of the boundary that would have provided an accurate date for its construction. The excavation did not provide any evidence to support or contradict the interpretation that it forms part of a linear earthwork possibly dating to the later Iron Age.

An additional six fieldwork exercises were carried out in Shankill townland as part of archaeological works for the N9/N10 Kilcullen to Waterford Road Scheme

(www.excavations.ie). These revealed evidence for two possible prehistoric structures, a *fulacht fiadh*, burnt mound activity, a kiln and a pit.

3.5 Cartographic Analysis

Ordnance Survey Maps: First Edition 1:10,560 (1842)*; First Edition 1:2,500* (1899 – 1902) and *Third Edition 1:10,560* (1902 – 1903)

The location of the substation is recorded as part of four fields on historic cartographic sources. RMP KK016-006 (linear earthwork), which is located approximately 45m south of the development area, is shown as a north west/south east oriented field boundary on historic cartographic sources and is not annotated as an antiquity. Two small, roofed structures in a slightly wooded setting are recorded in the location of the northern end of the eastern access track on the First Edition 1:10,560 map, but they are not shown on later edition cartographic sources.

There are no archaeological features recorded within the development area on the Ordnance Survey maps.

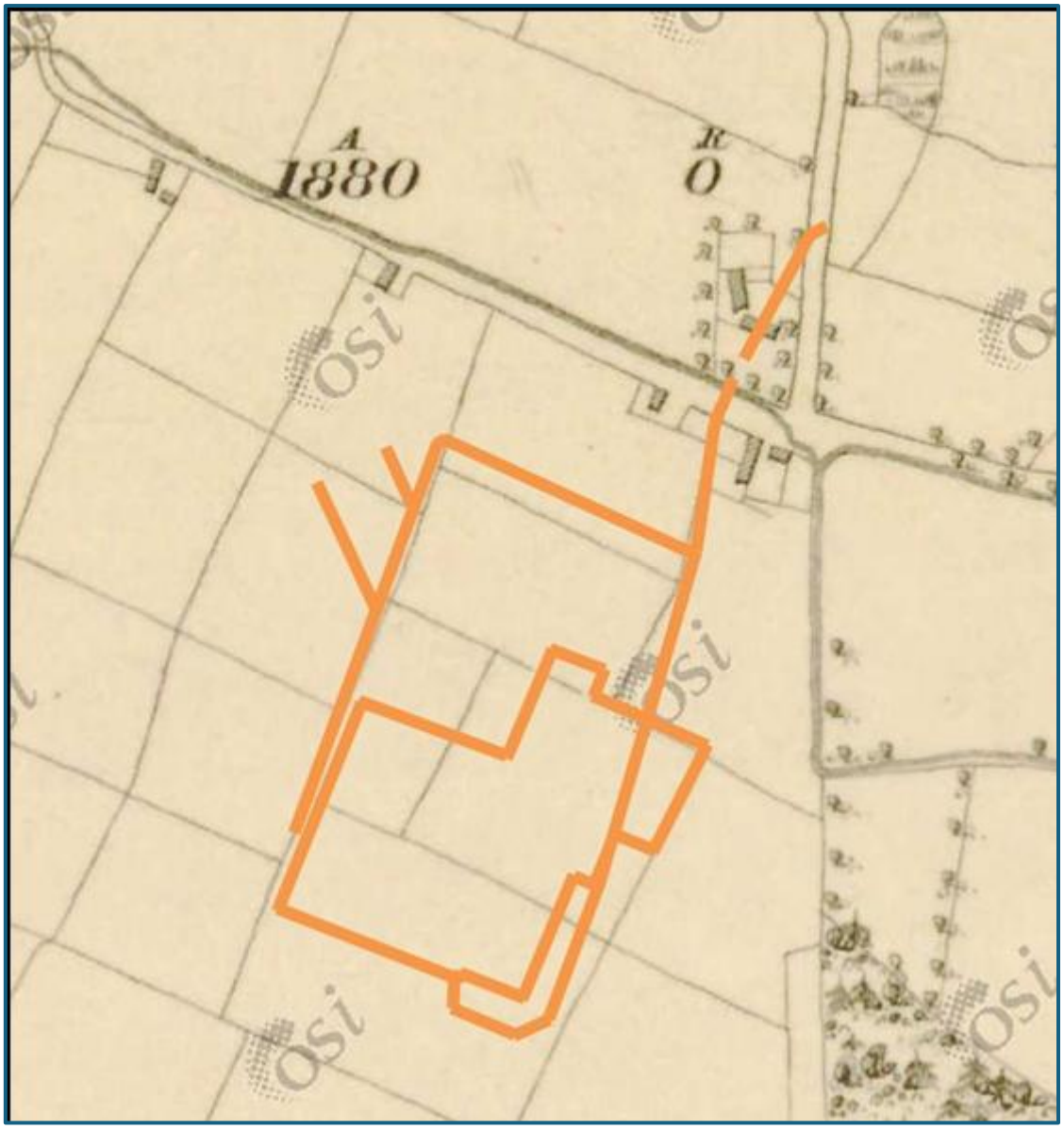

Figure 5: First Edition Ordnance Survey map 1:10,560 (1842), showing the development area

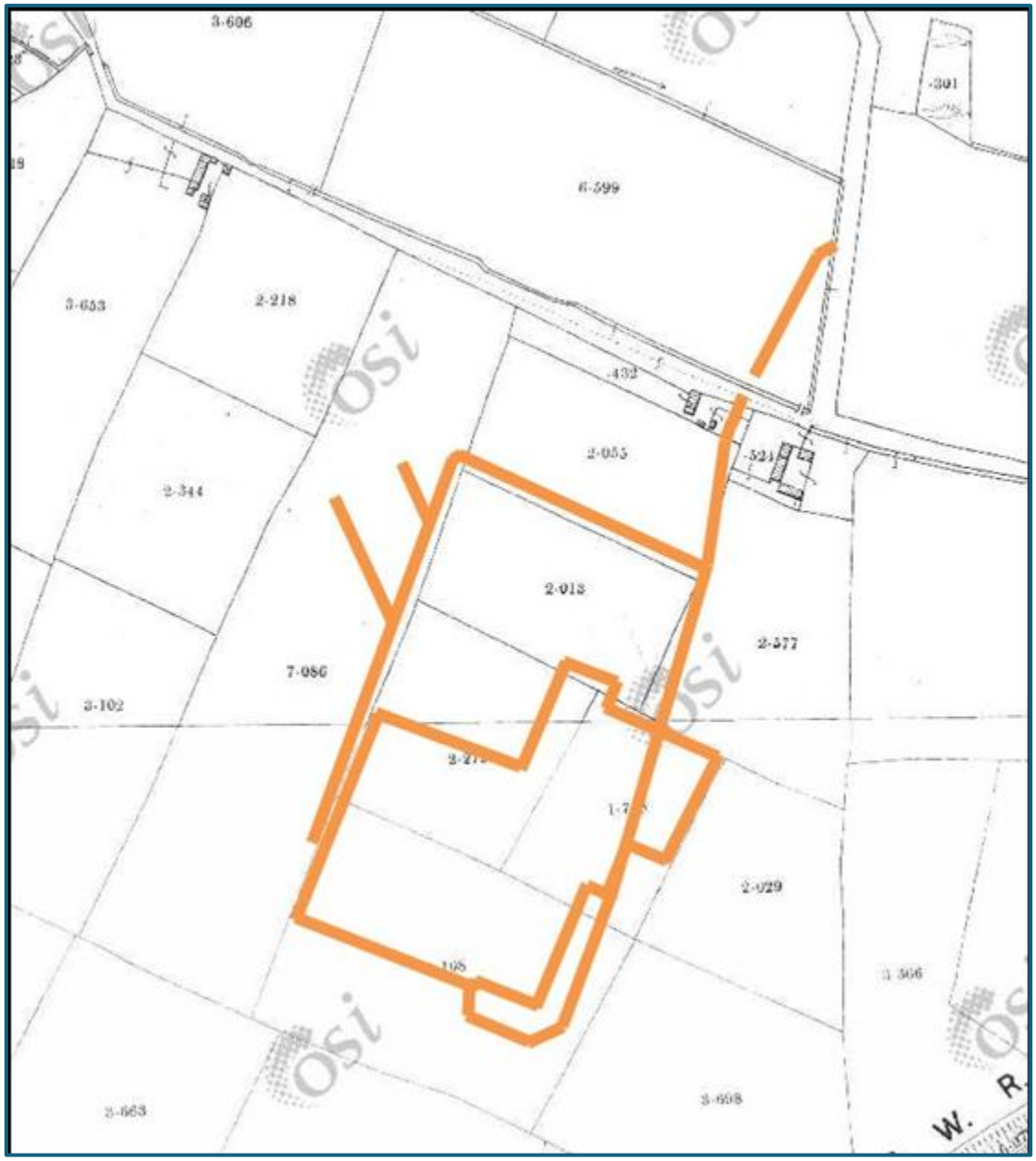

Figure 6: First Edition Ordnance Survey map 1:2,500 (1899 – 1902), showing the development area

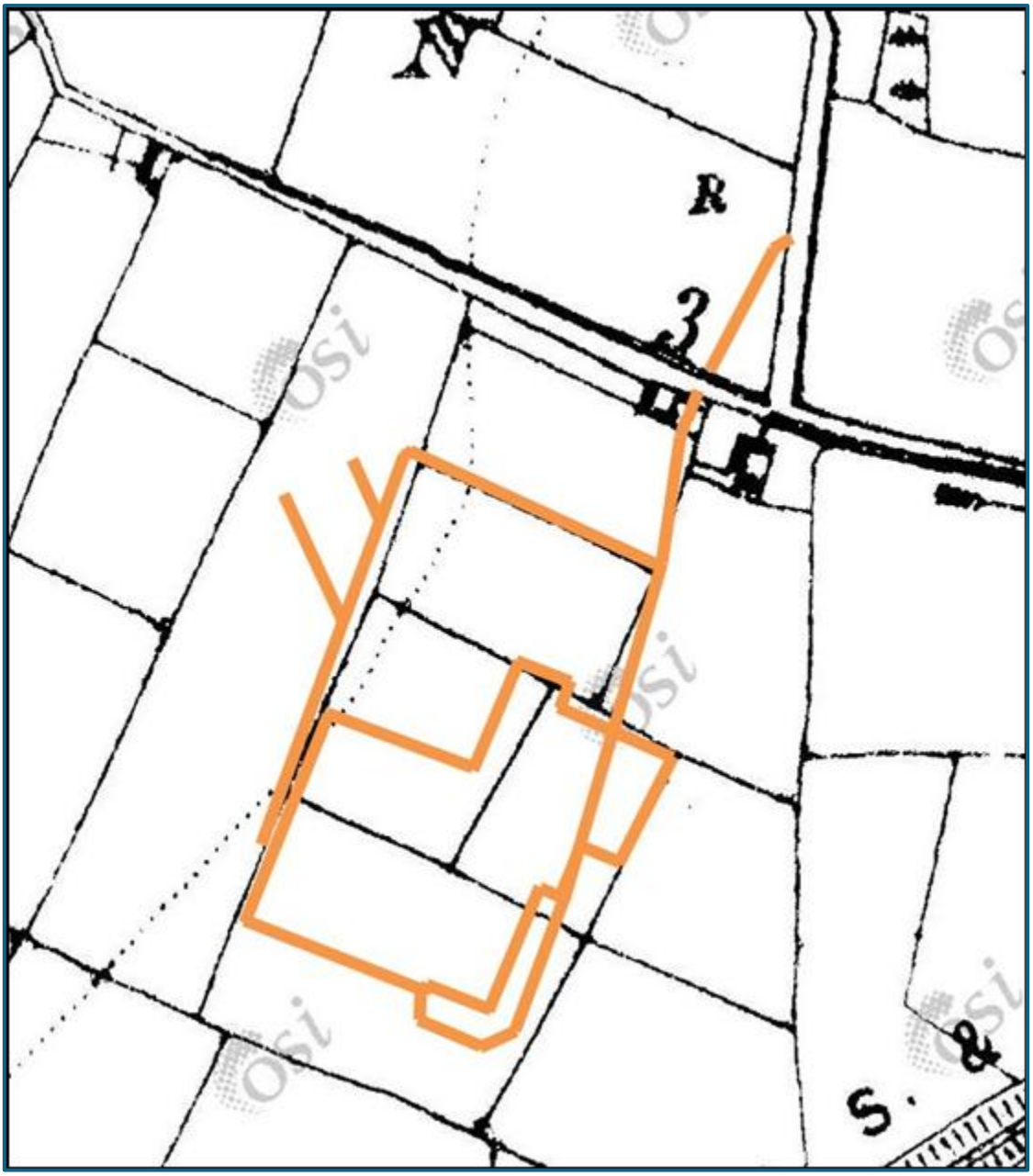

Figure 7: Third Edition Ordnance Survey map 1:10,560 (1902 – 1903), showing the development area

3.6 Aerial Photography

Aerial photographs held by Ordnance Survey Ireland (www.maps.geohive.ie) and Bing aerial photography (www.bing.com/maps) were consulted to look for the presence of archaeological or architectural remains within the development area.

The location of the substation is recorded as part of two fields on aerial photographic sources, which are defined by mature field boundaries. The associated access tracks will cross six fields.

There was no evidence of any archaeological or architectural features recorded on aerial photography within the development area.

3.7 Results of Geophysical Survey

A geophysical survey of all of the development area was carried out by John Nicholls in June 2024 (Target Archaeological Geophysics Ltd. 2024). A total of 7.63ha of high-resolution recorded magnetometry was completed in six fields within the wider site boundary of the development, examining all lands suitable for geophysical investigation at the time of fieldwork.

Figure 8: Aerial photograph showing extent of the geophysical survey

Figure 9: Results of the geophysical survey

The geophysical survey was carried out under Licence (Detection Licence no. 24R0294) from National Monuments Service, Department of Housing, Local Government and Heritage, with the following aims:

- to identify geophysical anomalies of possible archaeological origin within the investigation areas;
- to accurately locate those anomalies and present the findings in graphical format; and
- to describe the anomalies and discuss their likely provenance in a written report.

It was noted in the geophysical survey report (*ibid*., 5) that:

> "*The results from geophysical survey in M1-M6 at the site of proposed development demonstrate a mostly quiet magnetic background throughout. . . 'Noise' in the geophysical survey data from M1-M6 can be attributed mostly to responses from former boundaries, land drains and modern ferrous. Remnants of a possible fulacht fiadh are indicated by a broad area of suspected burnt/fired material detected at the western survey limit in M4. No further responses of definite archaeological character or significant archaeological potential are indicated by the results from geophysical survey in M1-M6. The geophysical survey results from M1-M6 do, however, highlight a number of anomalies which may require further invasive examination to confirm their exact origin. These include 2 clusters of small-scale positives to the N in M1, and 2 zones of increased response in M1 to the E and M5 N of survey centre... In the majority of cases, where no immediate archaeological context is present in the data, poorly defined anomalies and trends such as those mentioned above derive mostly from effects from past landuse, natural soil/geological variation and/or modern ferrous*".

The geophysical survey was carried out over a larger area of land take than will be required for the development (figure 8), and as such some features of slight geophysical significance are located outside the extent of the development area and therefore did not require assessment.

Geophysical Anomaly C (figure 9) was recorded as an increased response measuring approximately 10m in diameter.

> "*C is not expected to be of significance, particularly given its proximity to an existing field boundary and its location along the axis of a former boundary depicted on historic mapping. A recent landuse and/or natural soil/geological is expected*" (*ibid*.).

It is confirmed that Geophysical Anomaly C will be preserved *in situ* and that the proposed access track in this location will be located east of the anomaly. In addition, the access track will be of floating formation within 10m of Geophysical Anomaly C.

The only feature (Geophysical Anomaly D, figure 9) of probable archaeological significance identified in the geophysical survey was a broad zone of poorly defined positive/negative magnetic response with strongly magnetic positives at the interior. It is noted in the geophysical survey report (*ibid*.) that this anomaly "*is indicative of a concentration of burnt/fired material, likely associated with a fulacht fiadh/burnt mound. Interpretation is cautious as concentrations of modern ferrous debris can exhibit similar patterns of response*".

It is confirmed that Geophysical Anomaly D will be fully preserved *in situ*, and that a minimum 25m buffer zone has been established around the western, eastern and southern sides of the possible burnt spread as revealed in the geophysical survey (figure 10).

3.8 Site visit

The field inspection sought to assess the site, its previous and current land use, the topography and any additional environmental information relevant to the test trenching Method Statement. The site visit was carried out on 22nd May 2024 (plate 1), and the area of land take was walked and visually assessed. Weather conditions were wet and bright.

No archaeological, architectural or cultural heritage features were revealed within the development area as a result of carrying out the walkover survey. There was no above-ground evidence of RMP KK016-006 (linear earthwork) recorded during the walkover survey.

Plate 1: Location of RMP KK016-006 (linear earthwork), looking west

4 ARCHAEOLOGICAL TEST TRENCHING

4.1 General

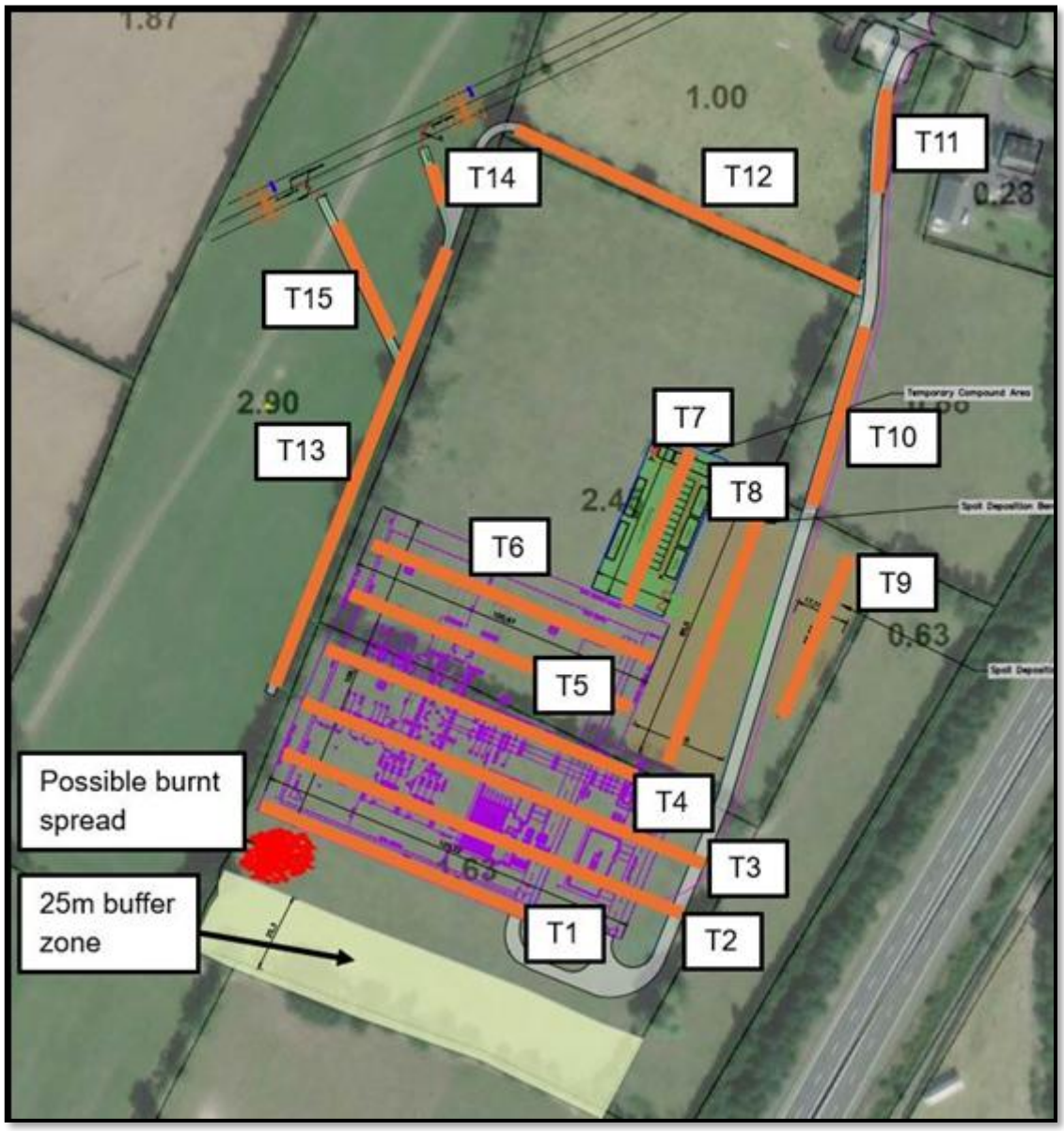

Figure 10: Location of Test Trenches 1 – 15

Fifteen test trenches (Test Trenches 1 – 15, figure 10) were excavated within the area of land take. Test trenching, which was carried out using a 13-tonne machine fitted with a 1.80m wide flat bucket, took place between 21st and 23rd October 2024 under constant supervision by the Licensee. Weather at the time of testing was continually dry and sunny.

Trenches 1-9 and 11-15 were excavated as per the Licence Application and Method Statement.

Trench 10 was excavated in 3 no. sections due to the presence of an overhead power line.

Excavation of the test trenches aimed to determine, as far as is reasonably possible, the location, extent, date, character, condition, significance and quality of any surviving archaeological remains liable to be threatened by the development. Test trenching also sought to clarify the nature and extent of existing disturbance and intrusions and assess the degree of archaeological survival in order to formulate further mitigation strategies designed to avoid, reduce or offset any adverse impacts associated with the development.

A detailed visual inspection, for the purpose of artefact retrieval, was undertaken of all excavated soils after they had been safely removed from the test trenches.

4.2 Results of test trenching

Trench 1 (Plate 2)

Length:	90m
Depth:	0.20m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.20m	**Context (C)1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.20m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 1.

Trench 2 (Plate 3)

Length:	140m
Depth:	0.25m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.25m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.25m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 2.

Trench 3 (Plate 4)

Length:	140m
Depth:	0.25m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.25m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.25m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 3.

Trench 4 (Plate 5)

Length:	115m
Depth:	0.20m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.20m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.20m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 4.

Trench 5 (Plate 6)

Length:	100m
Depth:	0.30m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.30m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.

0.30m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 5.

Trench 6 (plate 7)

Length:	100m
Depth:	0.30m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.30m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.30m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 6.

Trench 7 (Plate 8)

Length:	55m
Depth:	0.30m
Width:	1.80m
Stratigraphy from	

Present Ground Level (PGL):	
0.0m – 0.30m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.30m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 7.

Trench 8 (Plate 9)

Length:	85m
Depth:	0.30m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.30m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.30m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 8.

Trench 9 (Plate 10)

Length:	55m

Depth:	0.30m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.30m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.30m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 9.

Trench 10 (Plates 11-13)

Length:	60m (3 x 20m)
Depth:	0.25m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.25m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.25m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 10. Trench 10 was excavated in 3 no. sections due to the presence of an overhead power line.

Trench 11 (Plate 14)

Length:	30m
Depth:	0.55m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.55m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.55m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 11.

Trench 12 (Plate 15)

Length:	115m
Depth:	0.35m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.35m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.

0.35m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 12.

Trench 13 (Plates 16 and 19)

Length:	160m
Depth:	0.35m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.35m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.35m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.
Archaeological features	**C3**. A sub-oval pit (Plate 19) was uncovered measuring 1.2m x 0.8m x 0.3m deep. It was filled with a mid-grey brown friable silty clay with occasional charcoal flecks and burnt stone. It was located at the following coordinates: ITM 665510.171 / 660540.567. It corresponds with Anomaly C from the geophysical survey, and has been preserved *in situ*.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

One archaeological feature, a small sub-oval pit (C3), was revealed in Trench 13. This feature has been preserved *in situ*.

Trench 14 (Plate 17)

Length:	10m
Depth:	0.35m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.35m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.35m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 14.

Trench 15 (Plate 18)

Length:	35m
Depth:	0.35m
Width:	1.80m
Stratigraphy from Present Ground Level (PGL):	
0.0m – 0.35m	**C1**. Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
0.35m - onwards	**C2**. Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.

Interpretation

Testing revealed topsoil (C1) directly sealing a superficial geological deposit (C2).

No archaeological features or artefacts were revealed in Trench 15.

4.3 Summary

Trenches 1-9 and 11-15 were excavated as per the Licence Application and Method Statement. Trench 10 was excavated in 3 no. sections due to the presence of an overhead power line.

Test trenching revealed topsoil directly sealing geologically deposited strata in all of the test trenches. One archaeological feature, a small sub-oval pit (C3), was revealed in Trench 13. It corresponds with Anomaly C from the geophysical survey, and has been preserved *in situ*.

Plate 2: Trench 1, looking south east

Plate 3: Trench 2, looking north west

Plate 4: Trench 3, looking north west

Plate 5: Trench 4, looking north west

Plate 6: Trench 5, looking north west

Plate 7: Trench 6, looking north west

Plate 8: Trench 7, looking north east

Plate 9: Trench 8, looking north east

Plate 10: Trench 9, looking north east

Plate 11: Trench 10 Section A, looking north east

Plate 12: Trench 10 Section B, looking north east

Plate 13: Trench 10 Section C, looking north east

Plate 14: Trench 11, looking north

Plate 15: Trench 12, looking north west

Plate 16: Trench 13, looking north east

Plate 17: Trench 14, looking north west

Plate 18: Trench 15, looking north west

Plate 19: East facing section of C3

5 IMPACT ASSESSMENT AND MITIGATION MEASURES

Impacts can be identified from detailed information about a project, the nature of the area affected, and the range of archaeological resources potentially affected. Archaeological sites can be affected adversely in a number of ways: disturbance by excavation and topsoil stripping; disturbance by vehicles working in unsuitable conditions; and burial of sites, limiting access for future archaeological investigation.

5.1 Impact Assessment

The development will involve construction of an electricity substation, including all associated electrical apparatus, located in the townland of Shankill, Paulstown, County Kilkenny. The substation compound will measure approximately 160m x 145m, including a temporary compound area and 2 no. spoil deposition berms (figure 2).

Fifteen test trenches (Trenches 1 – 15) were excavated within the area of land take. Test trenching was carried out using a 13-tonne machine fitted with a 1.80m wide flat bucket under constant supervision by the Licensee. Trenches T1 to T9 and T11 to T15 were excavated as per the Licence Application and Method Statement. Trench 10 was excavated in 3 no. sections due to the presence of an overhead power line.

Test trenching revealed topsoil directly sealing geologically deposited strata in all of the test trenches.

One archaeological feature, a small sub-oval pit (C3), was revealed in Trench 13. It corresponds with Anomaly C from the geophysical survey, and has been preserved *in situ*.

5.2 Mitigation Measures

One archaeological feature, a small sub-oval pit (C3), was revealed in Trench 13. It corresponds with Anomaly C from the geophysical survey. It is confirmed that it will be preserved *in situ*, and that the proposed access track will be located east of this feature. In addition, the access track will be of floating formation within 10m of this feature.

It is recommended that archaeological monitoring of all excavations associated with construction of the electricity substation be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring.

Please note that all recommendations are subject to approval by National Monuments Service - Department of Housing, Local Government and Heritage

6 NON-TECHNICAL SUMMARY

This Archaeological Assessment has been prepared on behalf of White Hill Wind Ltd. to assess and define the impact, if any, on the archaeological resource of the construction of an electricity substation located in the townland of Shankill, Paulstown, County Kilkenny.

The development will involve construction of an electricity substation, including all associated electrical apparatus. The substation compound will measure approximately 160m x 145m, including a temporary compound area and 2 no. spoil deposition berms.

Trenches T1 to T9 and T11 to T15 were excavated as per the Licence Application and Method Statement. Trench 10 was excavated in 3 no. sections due to the presence of an overhead power line.

Test trenching revealed topsoil directly sealing geologically deposited strata in all of the test trenches.

One archaeological feature, a small sub-oval pit (C3), was revealed in Trench 13. It corresponds with Anomaly C from the geophysical survey. It is confirmed that it will be preserved *in situ*, and that the proposed access track will be located east of this feature. In addition, the access track will be of floating formation within 10m of this feature.

It is recommended that archaeological monitoring of all excavations associated with construction of the electricity substation be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring.

REFERENCES

Department of Arts, Heritage, Gaeltacht and the Islands. (DAHGI). 1999a. Framework and Principles for the Protection of the Archaeological Heritage. Dublin.

DAHGI. 1999b. Policy and Guidelines on Archaeological Excavation. Dublin.

Department of Housing, Local Government and Heritage. Unpublished. Record of Monuments and Places, County Kilkenny.

Edwards, N. 2006. The Archaeology of Early Medieval Ireland. Oxford.

Irish Archaeological Consultancy. 2012. Shankill 1: N9/N10 Kilcullen to Waterford Scheme, Phase 4 – Knocktopher to Powerstown. Final Report.

National Museum of Ireland. Topographical Files, County Kilkenny. Unpublished.

O'Flaherty, B. 1987. "A linear earthwork at Shankill, Co. Kilkenny", in Archaeological Excavations on the Cork – Dublin Gas Pipeline. Cork.

Stout, M. 1997. The Irish Ringfort. Dublin.

Target Archaeological Geophysics Ltd. 2024. Geophysical Survey Report. Proposed electricity substation in Shankill townland, Co. Kilkenny. Unpublished.

Waddell, J. 2005. The Prehistoric Archaeology of Ireland. Galway.

Walsh, J.R. 2000. "The early Church", in Jefferies, H.A. and Devlin, C. (eds.). History of the Diocese of Derry from Earliest Times. Dublin.

Cartographic Sources

Ordnance Survey Ireland 1842, 1899 - 1902 and 1902 - 1903

Internet Sources

www.archaeology.ie National Monuments Service

www.bing.com/maps Bing Aerial Photography

www.excavations.ie Database of Irish Excavation Reports

www.iai.ie Institute of Archaeologists of Ireland

www.logainm.ie Irish Placenames Database

www.maps.geohive.ie Ordnance Survey Ireland aerial photographs

APPENDIX 1 LIST OF CONTEXTS

C1	Topsoil. Sticky mid brown silty clay with rare 0.10m - 0.20m stone inclusions.
C2	Natural geology. Compact light-brown yellowish silty clay with rare 0.10m – 0.20m stone inclusions evenly distributed.
C3	A sub-oval pit in Trench 13, measuring 1.2m x 0.8m x 0.3m deep. It was filled with a mid-grey brown friable silty clay with occasional charcoal flecks and burnt stone. It was located at the following coordinates: ITM 665510.171 / 660540.567. It corresponds with Anomaly C from the geophysical survey, and has been preserved *in situ*.