White Hill Wind Farm Electricity Substation & Electricity Line

Environmental Impact Assessment Report

Chapter 10: Cultural Heritage

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10.1 Introduction

This chapter has been prepared to define and assess any likely significant impacts or effects which the construction, operation and decommissioning of the project may have on the archaeological, architectural and cultural heritage resource. The chapter also describes mitigation measures, based on current information, which may be used to avoid, reduce or offset any likely adverse effects identified.

10.1.1 Objectives

The objectives of this chapter are to:-

- identify all known features of archaeological, architectural and cultural heritage importance in the vicinity of the project;
- determine any likely effects of the project on the archaeological, architectural and cultural heritage resource; and,
- identify measures to mitigate any likely adverse effects of the project on the archaeological, architectural and cultural heritage resource.

The following key effects are addressed:-

- Direct and indirect effects of the construction of the project on the archaeological, architectural and cultural heritage resource;
- Direct and indirect effects of the operation of the project on the archaeological, architectural and cultural heritage resource; and,
- Cumulative effects of the construction and operation of the project on the archaeological, architectural and cultural heritage resource with other existing, permitted or proposed developments or projects.

10.1.2 Description of the Project

The project site is located in rural County Kilkenny and County Carlow, approximately 11 kilometres (km) northeast of Kilkenny City, c. 15km southwest of Carlow Town, c. 3km west of Muine Bheag and c. 1km north of Paulstown. In summary, the project comprises the following main components as described in full at **Chapter 3**:-

- A 110kV 'loop-in/loop-out' electricity substation;
- Approximately 320 metres (m) of 110kV underground electricity line between the electricity substation and the Kellis-Kilkenny overhead transmission line and the provision of 2 no. interface masts;
- An electrical control unit at the permitted White Hill Wind Farm site;
- Approximately 8.8km of underground electricity line between the electricity substation and the electrical control unit; and,
- All associated and ancillary site development, access, excavation, construction, landscaping and reinstatement works, including provision of site drainage infrastructure.

The project site traverses the administrative boundary between counties Kilkenny and Carlow; with the electricity substation and c. 3.3km of the underground electricity line located in County Kilkenny and c. 5.5km of the underground electricity line and the electrical control unit located in County Carlow. Electrical equipment suppliers, construction material suppliers and candidate quarries which may supply aggregates are located nationwide.

10.1.3 Statement of Authority

Dermot Nelis BA ArchOxon AIFA MIAI (Horizon Archaeology) 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 and has directed large-scale multi-period excavations associated with those developments. He has completed over 190 no. licensed fieldwork programmes and over 250 no. archaeological, architectural and cultural heritage desk-based reports, including assessments for Environmental Impact Statements and Environmental Impact Assessment Reports.

10.2 Methodology

10.2.1 Study Area

There is no professional standard for defining the extent of a study area when assessing the likelihood of effects on archaeological, architectural or cultural heritage remains. A 1km study area has been applied around the electricity substation and the electrical control unit to assess the presence of statutorily protected archaeological remains (RMP sites). In addition, a 2km study area has been applied around the electricity substation and the electrical control unit to assess the presence of any World Heritage Sites, sites included in the Tentative List as consideration for nomination to the World Heritage List, National Monuments, sites with Preservation Orders or Temporary Preservation Orders, Protected Structures, Conservation Areas, Proposed Conservation Areas, or structures recorded on the National Inventory of Architectural Heritage (NIAH).

As the electricity line will be underground, a 100m study area either side of the route has been applied to examine for the presence of statutorily protected archaeological, architectural and cultural heritage features.

An assessment has been made of any historic gardens or designed landscapes as recorded on the NIAH that may exist within the project site.

10.2.2 Sources of Information

Research has been undertaken in 4 no. phases. The first phase comprised a desk review, namely a paper and digital survey of archaeological, historical and cartographic sources. The second phase involved a field inspection of the project site. The third phase involved geophysical survey within the site of the electricity substation, and the fourth phase involved licensed test trenching within the site of the electricity substation. Each phase is described in the following sections.

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

- Record of Monuments and Places of County Carlow and County Kilkenny;
- Topographical Files of the National Museum of Ireland;
- Cartographic and documentary sources relating to the study area;
- Aerial photographs of Ordnance Survey Ireland and Bing aerial photography;
- *Carlow County Development Plan* 2022 – 2028 and *Kilkenny City and County Development Plan* 2021 – 2027;
- National Inventory of Archaeological Heritage; and,

- Environmental Protection Agency *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (2022).

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 wider 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.

Carlow County Development Plan 2022-2028 and *Kilkenny City and County Development Plan 2021-2027* contain Objectives and Policies on the preservation and management of archaeological, architectural and cultural heritage features.

National Inventory of Architectural Heritage (NIAH) is a section within the Department of Housing, Local Government and Heritage. The work of NIAH involves identifying, recording and evaluating, on a non-statutory basis, the architectural heritage of Ireland from 1700 to the present day. The NIAH website also contains a non-statutory register of historic gardens and designed landscapes, and this was assessed to look for the presence of any such features within the project site.

Environment Protection Agency *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (2022) provides definitions for potential effects on archaeological, architectural and cultural heritage remains.

10.2.3 Field Inspection

Field inspection is necessary to determine the extent, character and condition of archaeological, architectural and cultural heritage features, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The site visit at the electricity substation was carried out on 22 May 2024, while the site visit at the electrical control unit was carried out on 15 September 2021. All areas of land take associated with the electricity substation site and electrical control unit site were walked and visually assessed. A windshield survey of the route of the electricity line on public roads was carried out on 4 September 2024. The off-road sections of the underground electricity line which were visible from the public road were also visually

inspected.

A geophysical survey was carried out within the site of the electricity substation and immediately surrounding lands in June 2024. The survey was undertaken to locate and identify any potential archaeological responses within the site. In summary, the geophysical survey revealed 1 no. feature of possible archaeological significance. This feature will be preserved *in situ* in its entirety.

Licensed test trenching was carried out within the site of the electricity substation in October 2024. In summary, test trenching revealed the presence of a small sub-oval pit (at the location identified in the geophysical survey) along the route of the access track immediately west of the electricity substation. This below-ground feature was preserved *in situ* during test trenching and will be preserved *in situ* in its entirety.

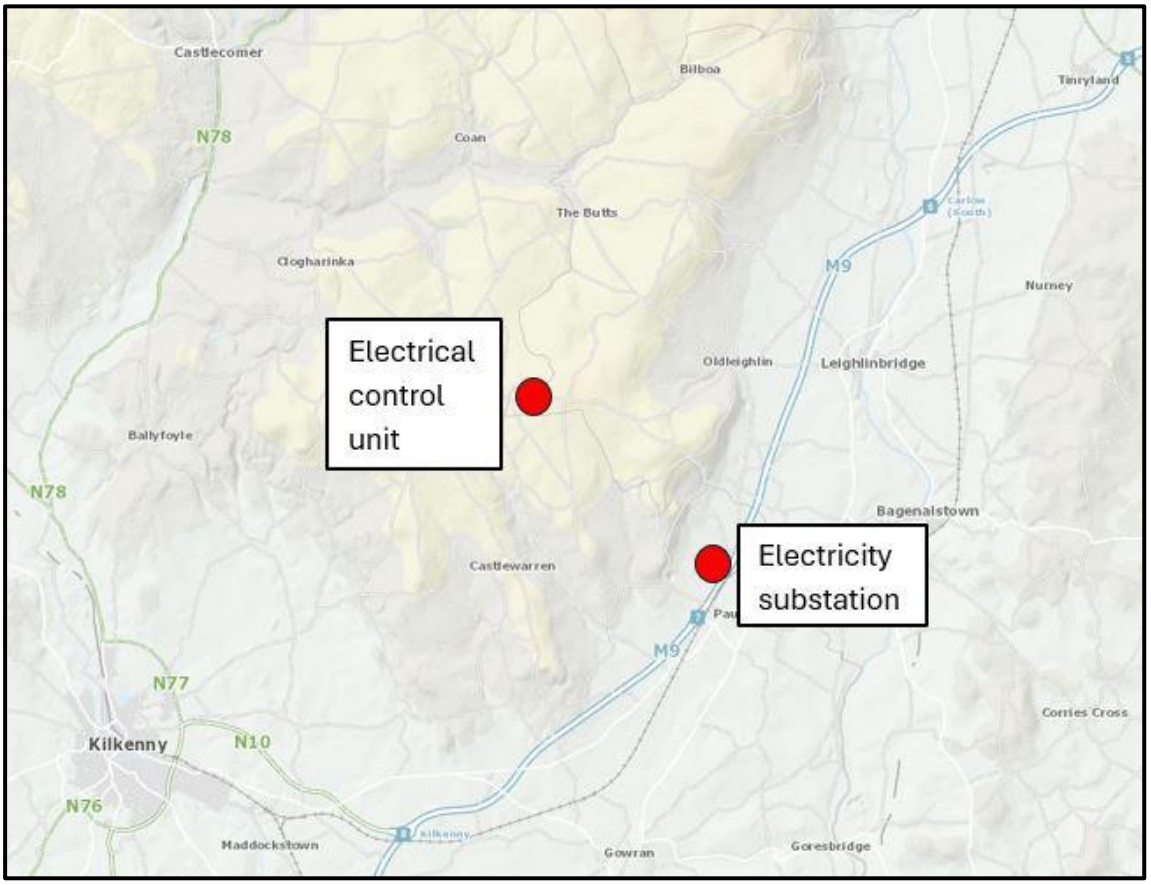

Figure 10.1: Location of electricity substation and electrical control unit

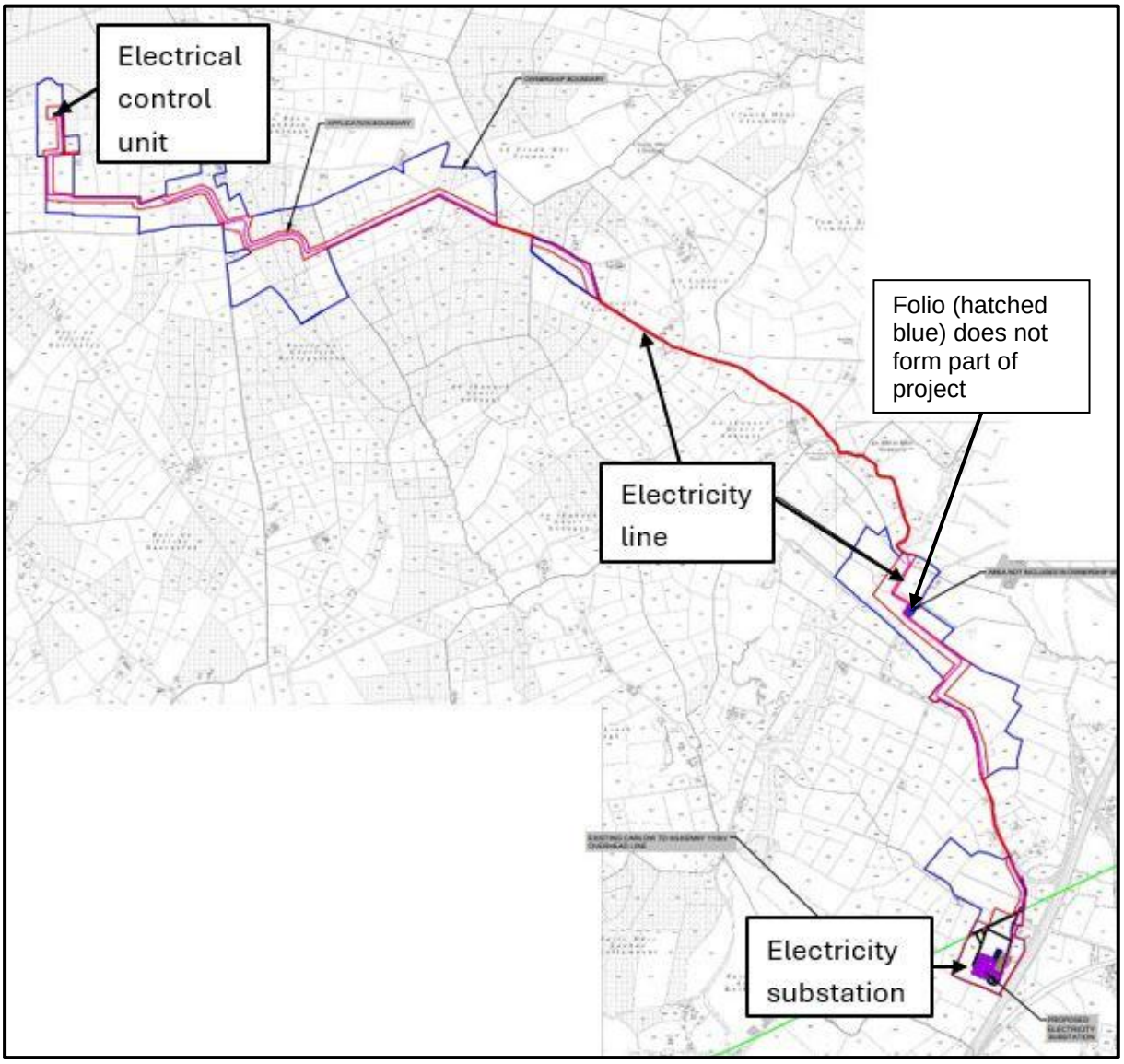

Figure 10.2: Site layout showing electricity substation, electrical control unit and route of electricity line

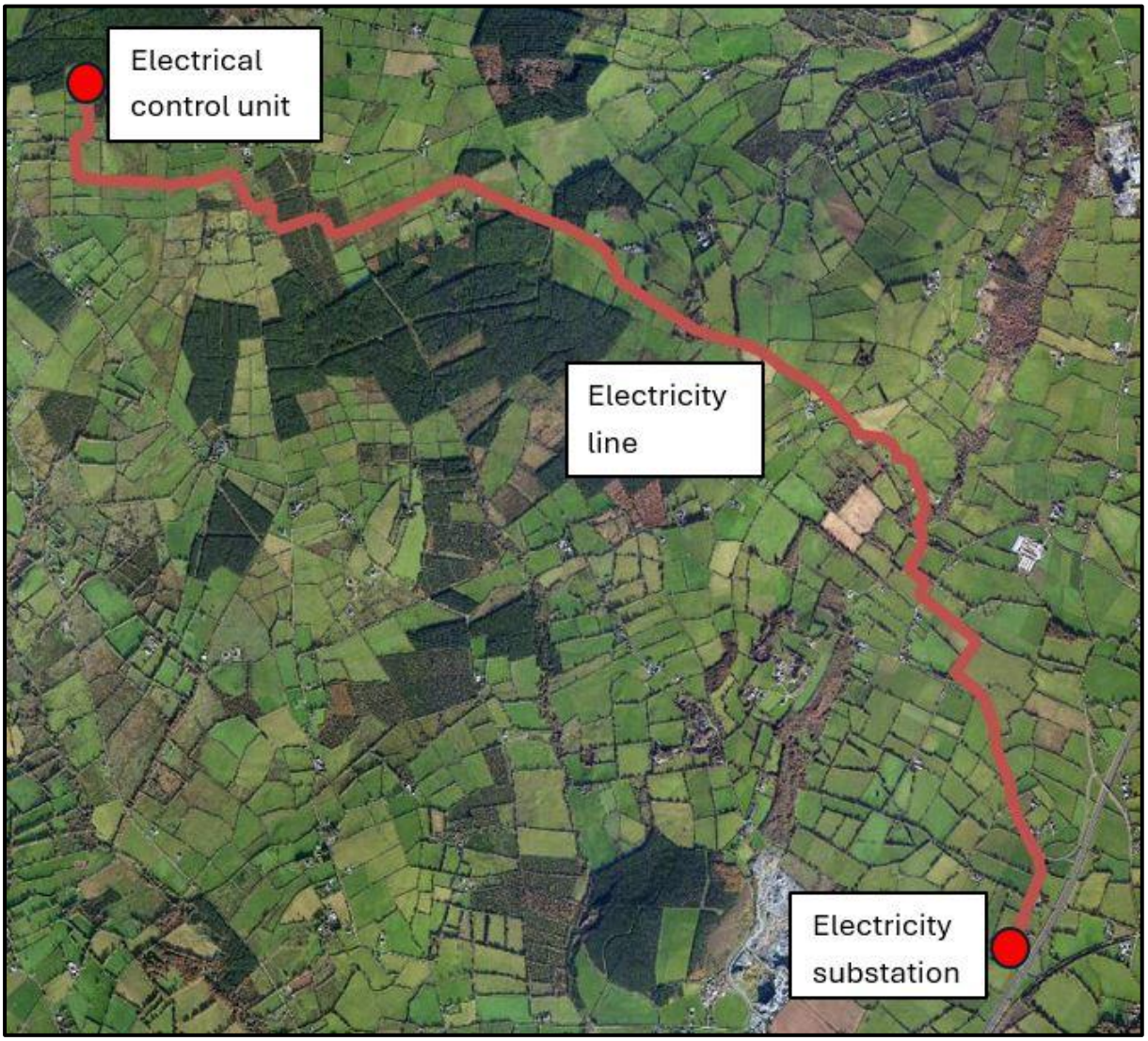

Figure 10.3: Aerial photograph showing electricity substation, electrical control unit and route of electricity line

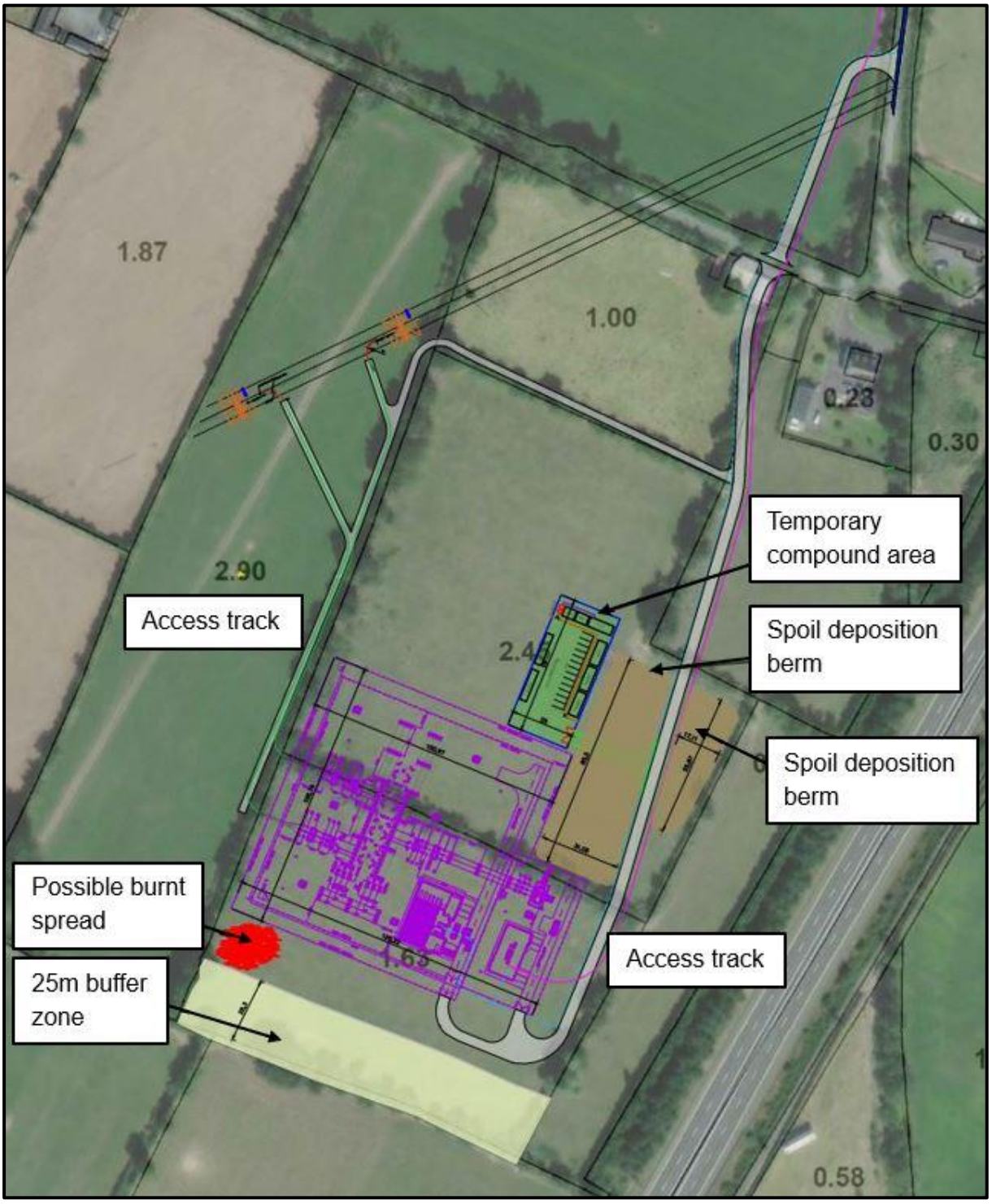

Figure 10.4: Layout of electricity substation site

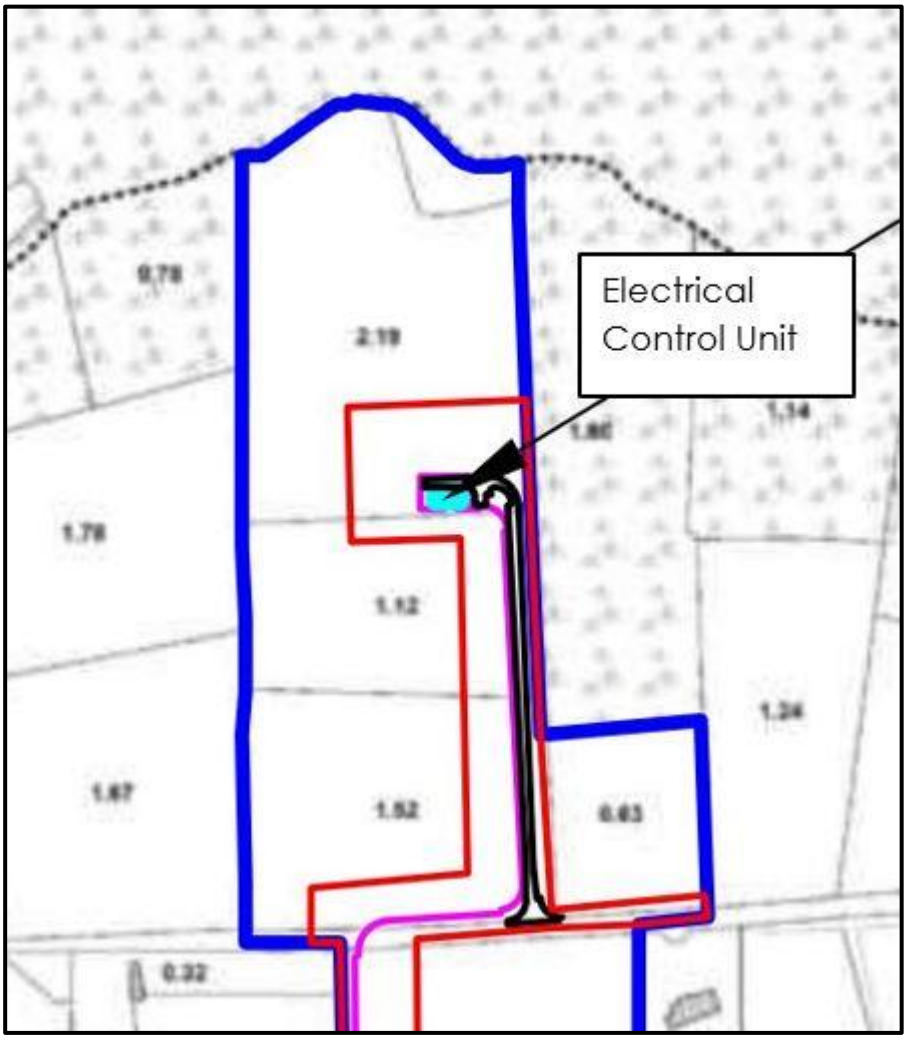

Figure 10.5: Site layout plan of electrical control unit

10.2.4 Significance Criteria

The likelihood of significant effects can be identified from detailed information about a project, the nature of the area affected, and the range of resources potentially impacted on. The construction, operation and decommissioning of electricity substations, electrical control units and underground electricity lines can affect the archaeological, architectural and cultural heritage resource of a given landscape in a number of ways:-

- Permanent and temporary land-take by associated structures may result in damage to or loss of archaeological remains and deposits, or physical loss to the setting of historic monuments and to the physical coherence of the landscape;
- Archaeological sites can be affected adversely in a number of ways including disturbance by excavation, topsoil stripping and the passage of heavy machinery, disturbance by vehicles working in unsuitable conditions, and burial of sites through material deposition thus limiting accessibility for future archaeological investigation;
- Hydrological/hydrogeological changes in groundwater water levels can result from construction activities, or long-term changes in drainage patterns. These may desiccate archaeological remains and associated deposits;

- Visual and noise effects on the historic landscape can arise from construction traffic and facilities, built earthworks and structures, landscape mounding and planting, noise, fences and associated works. These features can impinge directly on historic structures and historic landscape elements as well as their visual amenity value;
- Landscape measures, such as tree planting, can damage sub-surface archaeological features due to topsoil stripping and through the root action of trees and shrubs as they grow;
- Ground consolidation by construction activities or the weight of permanent embankments can cause damage to buried archaeological remains, especially in colluvium or peat deposits;
- Disruption due to construction also offers the potential for adversely affecting archaeological remains. This can include machinery, site offices, service trenches, etc; and,
- Although not widely appreciated, positive effects can accrue from developments. These can include positive resource management policies, improved maintenance and access to archaeological monuments, and the increased level of knowledge of a site or historic landscape as a result of assessment and fieldwork.

There is no standard scale against which the significance of likely effects on the archaeological and historic landscape may be judged. The severity of a given level of land take or visual intrusion varies with the type of monument, site or landscape features and its environment. Significance of effects can be judged taking the following into account:-

- The proportion of the feature affected and how far physical characteristics fundamental to the understanding of the feature would be lost;
- Consideration of the type, date, survival/condition, fragility/vulnerability, rarity, potential and amenity value of the feature affected; and,
- Assessment of the levels of visual (refer to **Chapter 9**), noise (refer to **Chapter 11**) and hydrological effects (refer to **Chapter 7**), either in general or site-specific terms, as may be provided by other specialists.

For this assessment, the significant effects criteria outlined in **Table 10.1** are used per the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (Environmental Protection Agency (2022), Section 3:50).

Level of Effects	Significance Criteria
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
Profound Effects	An effect which obliterates sensitive characteristics.

Table 10.1: Significance of Effects

10.3 Policy and Legislation

10.3.1 Archaeological Resource

The National Monuments Act, 1930 to 2014 and relevant provisions of the National Cultural Institutions Act, 1997 are the primary means of ensuring the satisfactory protection of archaeological remains, which includes all manmade structures of whatever form or date, except buildings habitually used for ecclesiastical purposes.

A number of mechanisms under the National Monuments Act are applied to secure the protection of archaeological monuments. These include the Record of Monuments and Places, the Register of Historic Monuments, the placing of Preservation Orders and Temporary Preservation Orders on endangered sites, and National Monuments in the Ownership or Guardianship of the Minister for Housing, Local Government and Heritage or a Local Authority.

The Minister may acquire National Monuments by agreement or by compulsory order. The State or the Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments (other than dwellings) may also appoint the Minister or the Local Authority as guardian of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister.

Section 5 of the 1987 Act requires the Minister to establish and maintain a Register of Historic Monuments. Historic Monuments and archaeological areas present on the Register are afforded statutory protection under the 1987 Act. Any interference with sites recorded on the Register is illegal without the permission of the Minister. Two months' notice in writing is required prior to any work being undertaken on or in the vicinity of a Registered Monument. The Register also includes sites under Preservation Orders and Temporary Preservation Orders. All Registered Monuments are included in the Record of Monuments and Places.

Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

Section 12(1) of the 1994 Act requires the Minister to establish and maintain a Record of Monuments and Places where the Minister believes that such monuments exist. The Record comprises a list of monuments and relevant places and a map/s showing each monument and relevant place in respect of each county in the State. All sites recorded on the Record of Monuments and Places receive statutory protection under the National Monuments Act 1994.

Section 12(3) of the 1994 Act provides that:-

> *"where the owner or occupier (other than the Minister for Arts, Heritage and the Gaeltacht) of a monument or place included in the Record, or any other person, proposes to carry out, or to cause or permit the carrying out of, any work at or in*

relation to such a monument or place, he or she shall give notice in writing to the Minister of Arts, Heritage and the Gaeltacht to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the work until two months after the giving of notice" (www.archaeology.ie).

The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 is in the process of being enacted, and will comprehensively modernise and eventually replace the National Monuments Act, 1930 to 2014. The Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023 will streamline and simplify existing systems and processes, and provides for the State to ratify some key international conventions in the area of heritage protection, should the Government decide to do so. There are also proposals for innovative measures, such as the automatic legal protection for finds from archaeological sites, a system of civil enforcement to be used as an alternative to, or to supplement, criminal proceedings, and an appeal process for licence applications.

10.3.2 Architectural and Built Heritage Resource

The main laws protecting the built heritage are the Architectural Heritage (National Inventory) and Historic Properties (Miscellaneous Provisions) Act, 1999 and the Planning and Development Act 2000 (as amended). The Architectural Heritage Act requires the Minister to establish a survey to identify, record and assess the architectural heritage of the country. The National Inventory of Architectural Heritage (NIAH) records built heritage structures within all the counties of the State. As inclusion in the Inventory does not provide statutory protection, the document is used to advise Local Authorities on compilation of a Record of Protected Structures (RPS) as required by the Planning and Development Act 2000.

The Planning and Development Act 2000 (as amended) requires Local Authorities to establish a Record of Protected Structures to be included in their respective County Development Plans. County Development Plans contain objectives designed to protect the archaeological, architectural and cultural heritage resource during the planning process. Buildings recorded on the RPS can include Recorded Monuments, structures listed on the NIAH, or buildings deemed to be of architectural, archaeological or artistic importance by the Minister. Sites, areas or structures of archaeological, architectural or artistic interest listed on the RPS receive statutory protection from injury or demolition under the 2000 Act. Damage to or demolition of a site registered on the RPS is an offence. The RPS list is not always comprehensive in every county.

A Local Authority has the power to order conservation and restoration works to be undertaken by the owner of a Protected Structure if it considers the building in need of repair. An owner or developer must make a written request to the Local Authority to carry out any works on a Protected Structure and its environs, which will be reviewed within 12 weeks of application. Failure to do so may result in prosecution.

10.4 Description of the Existing Environment

10.4.1 General Archaeological and Historical Background

During the Mesolithic period (c. 7,000-4,000 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.

The earliest evidence of settlement in County Kilkenny dates from the Mesolithic period. A site was discovered in Newrath townland during testing of the N25 Waterford City Bypass (National Roads Authority, 2006) on the edge of a wetland area. Mesolithic activity was encountered in two areas on the boulder clay at the base of organic deposits. Flint blades (Bann flakes) of Later Mesolithic date (*c*. 5500-4000 BC) were found on the original dry land surface under approximately 2m of peat.

The earliest evidence for settlement in County Carlow dates from the Neolithic period (*c*. 4000-2400 BC). During this period the population became more settled with a subsistence economy based on crop growing and stock-raising. Ten megalithic structures and six portal tombs are recorded in County Carlow (www.archaeology.ie).

By the 4th millennium BC, a farming economy was developing that involved forest clearance. Archaeological and pollen records show an increasingly settled landscape with some fixed field boundaries for livestock and cereal production. While farming did spread throughout the country, the preference was for light soils and upland margins with free draining soils and light woodland cover.

The Bronze Age (*c*. 2,400-600 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*.

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.

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 AD. The early churches tended to be constructed of wood or post-and-wattle, although 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 possibly 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 designs. 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 resulted in 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 Anglo-Normans centred 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. As in the case of ringforts, these enclosures protected a house and outbuildings usually built of wood.

More substantial stone castles followed the motte and bailey and moated sites in the 13th and 14th 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.

Oldleighlin, located approximately 2.7km north east of the electricity line, is the site of a monastery (RMP CW011-016) founded in the early 7th century by St. Gobban and which was plundered by the Vikings in 916 and burned in 1060. A church synod took place there in 630 to consider the date on which Easter Day should fall. It functioned

as one of the five bishoprics of Leinster in the early 12th century. The present building, which is one of the smallest Medieval cathedrals in Ireland, was begun by Donatus, Bishop of Leighlin, in c. 1152 – 1181, and was completed by the end of the 13th century. The first Norman bishop was appointed in the early 13th century and this probably led to the establishment of the borough. The site was gradually abandoned during the 14th century but was reconstituted in 1688 (www.archaeology.ie).

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 Tudors however took more of an interest in the affairs of Ireland, and they wanted to put a stop to the raids of the Gaelic Irish on 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 came another plantation, and parts of south western Tipperary were planted at that time.

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

The electricity substation will be located in Shankill townland, County Kilkenny, which is in the barony of Gowran and parish of Shankill. Lewis (1837, Vol. 2, 551) records the parish of Shankill, or St. Kill, as containing 2,313 inhabitants.

The electrical control unit will be located in Baunreagh townland, County Carlow, which is in the barony of Idrone West and parish of Old Leighlin. Lewis (*ibid*., 249) records the parish of Leighlin (Old) as containing 3,530 inhabitants. He notes that in 632:

> "*St. Gobban built a cell for himself and brethren at another place, and relinquished the abbey to St. Laserian, who made it the head of an episcopal see, over which he presided till his death in 638; and so greatly did the monastery flourish that, during the prelacy of St. Laserian, there were at one time not less than 1500 monks in the establishment. The priory was plundered in 916, 978, and 982, and in 1060 it was totally destroyed by fire. Among its subsequent benefactors was Burchard, son of Gurmoud, a Norwegian, who either founded or endowed the priory of St. Stephen, which being situated in a depopulated and wasted country, had frequently afforded refuge and assistance to the English, in acknowledgment of which Edward III. granted to the prior a concordatum in 1372. This priory was dissolved by Pope Eugene IV.,*

in 1432, and its possessions annexed to the deanery of Leighlin. The town appears to have derived all its importance and all its privileges from the see." (*ibid*.)

10.4.2 Site-Specific Archaeological Background

There are no Recorded Monuments within the site of the electricity substation.

There is 1 no. Recorded Monument within 100m of the electricity substation (**Figure 10.6**).

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 time 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 modern drainage scheme. The original fosse had been 5m wide x 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 (www.archaeology.ie).

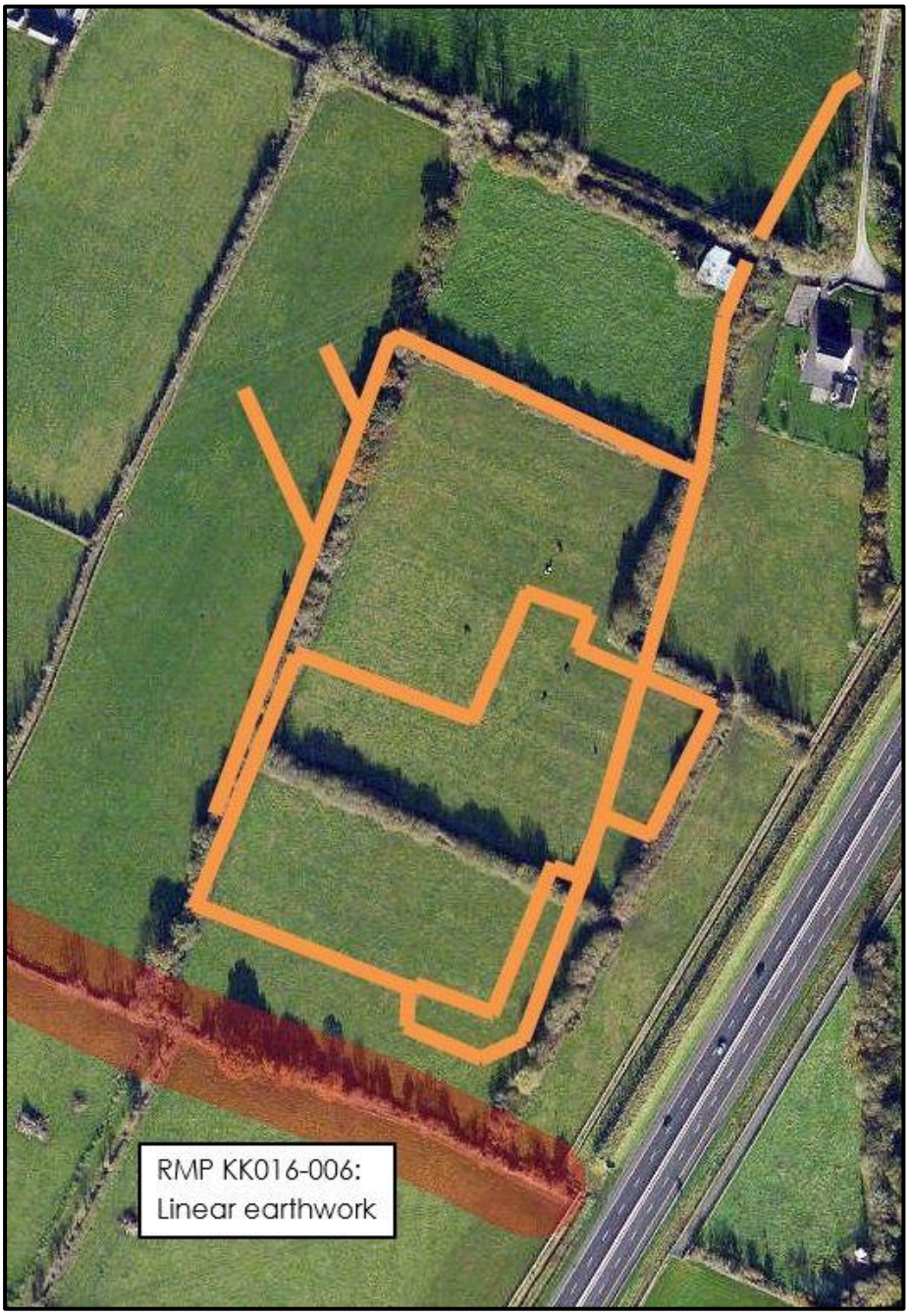

Figure 10.6: Electricity substation showing location of RMP 016-037 (linear earthwork)

There are an additional 17 no. Recorded Monuments within 1km of the electricity substation. 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 10.7**).

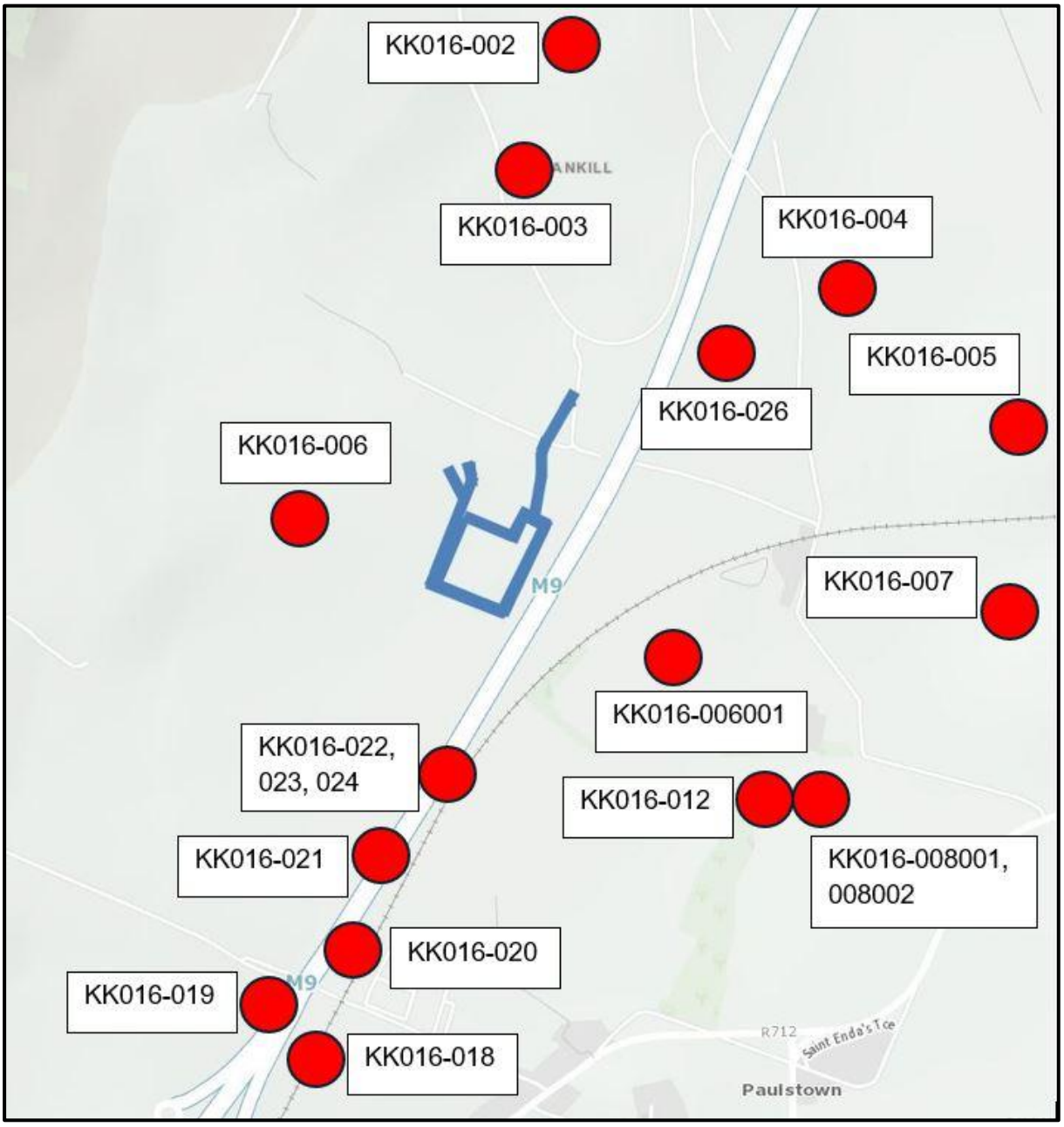

Figure 10.7: Recorded Monuments within 1km of the electricity substation

There are no Recorded Monuments within the site of the electrical control unit.

A Redundant Record (RMP KK015-071) is recorded approximately 920m south west of the electrical control unit. A well was investigated at this location in 1987 and was found to be a natural feature with no evidence of the presence of an archaeological monument (www.archaeology.ie).

There are no Recorded Monuments within the confines of the underground electricity line.

There are 4 no. Recorded Monuments within 100m (*i.e.* a 200m wide corridor) of the underground electricity line. Of these 4 no. Recorded Monuments, 1 no. is a burnt spread (RMP KK016-003), 1 no. is classified as a redundant record (RMP KK016-028), 1 no. is a moated site (RMP CW015-001) and 1 no. is a ringfort (RMP CW015-006) (**Figure**

10.8).

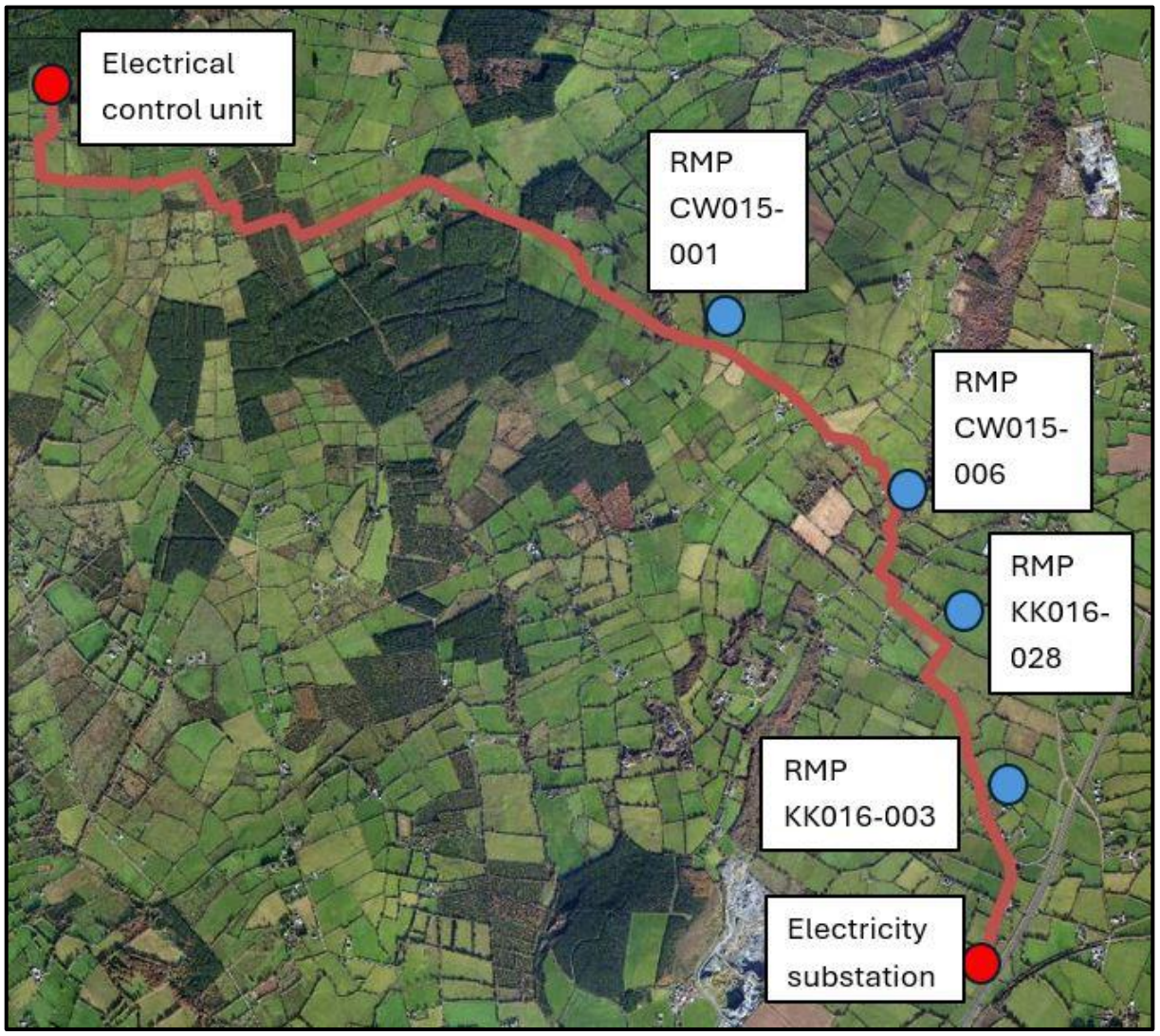

Figure 10.8: Recorded Monuments within 100m of the underground electricity line

Records that do not refer to monuments are designated as a redundant record, and are retained in the National Monuments Service archive as they may relate to features that were once considered to be monuments but which on investigation proved otherwise.

A *fulacht fiadh* is a horseshoe-shaped or kidney-shaped mound consisting of fire-cracked stone and charcoal-enriched soil built up around a sunken trough located near or adjacent to a water supply, such as a stream or spring, or in wet marshy areas. They are generally interpreted to have been associated with cooking, and date primarily to the Bronze Age (*c*. 2400-600 BC).

A burnt spread is an area of charcoal-enriched soil indicative of an activity associated with burning. These may be of any date from prehistory onwards, although they are generally associated with the Bronze Age (*c*. 2400-600 BC).

A ring-ditch is a circular or near circular fosse, usually less than 20m in diameter, and visible as cropmarks/soilmarks on aerial photographs. The function of these monuments is unknown as ring-ditches may be the remains of ploughed-out barrows, round houses

or other modern features and, in consequence, may date to any period from prehistory onwards.

A metalworking site is a place where metal was produced. These sites may date from the Bronze Age (c. 2400-600 BC) onwards.

A linear earthwork is a substantial bank and fosse, usually forming a major boundary between two adjacent landholdings. Most date from the late Bronze Age and Iron Age (c. 1200 BC - AD 400).

Ringforts are generally circular defensive enclosures which 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 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).

Enclosures 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.

Moated sites are square, rectangular or occasionally circular areas, sometimes raised above the ground, enclosed by a wide, often water-filled, fosse, with or without an outer bank and with a wide causewayed entrance. They date to the late 13th/early 14th centuries and were primarily fortified residences/farmsteads of Anglo-Norman settlers, though they were also built by Gaelic lords.

A corn-drying kiln is a structure used for drying corn before it is ground. They are also known as cereal-drying kilns, and date from the Medieval period onwards.

Tower houses are regarded as a late type of castle and were erected from the 14th to early 17th centuries.

Churches are described on National Monuments Service's online database (www.archaeology.ie) as buildings used for public Christian worship and can be of any date from c. 500 AD onwards.

Graveyards are described on National Monuments Service's online database (www.archaeology.ie) as a burial area around a church. They date from the Medieval period (5th–16th centuries) onwards.

10.4.3 Cartographic Analysis

10.4.3.1 Ordnance Survey Maps: First Edition 1:10,560 (1839, 1842) (**Figures 10.9**, **10.12** and **10.13**); First Edition 1:2,500 (1899 - 1902) (**Figure 10.10**) and Third Edition 1:10,560 (1902 - 1903) (**Figure 10.11**)

The electricity line will cross a number of townland boundaries and a parish, barony and county boundary as shown on the First Edition map. The electrical control unit will be located approximately 140m south of a townland, parish, barony and county boundary. Research suggests that:-

> "*hoards and single finds of Bronze Age weapons, shields, horns, cauldrons and gold personal objects can all be shown to occur on boundaries*." (Kelly 2006, 28).

The location of the electricity substation is recorded as part of 4 no. fields on historic cartographic sources. RMP KK016-006 (linear earthwork), which is located approximately 45m south of the electricity substation, is shown as a north west/south east oriented field boundary on historic cartographic sources and is not annotated as an antiquity. 2 no. 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 or architectural features recorded within the site of the electricity substation or electrical control unit on the Ordnance Survey maps.

The historic maps all record the presence of small vernacular structures in close proximity to the electricity line.

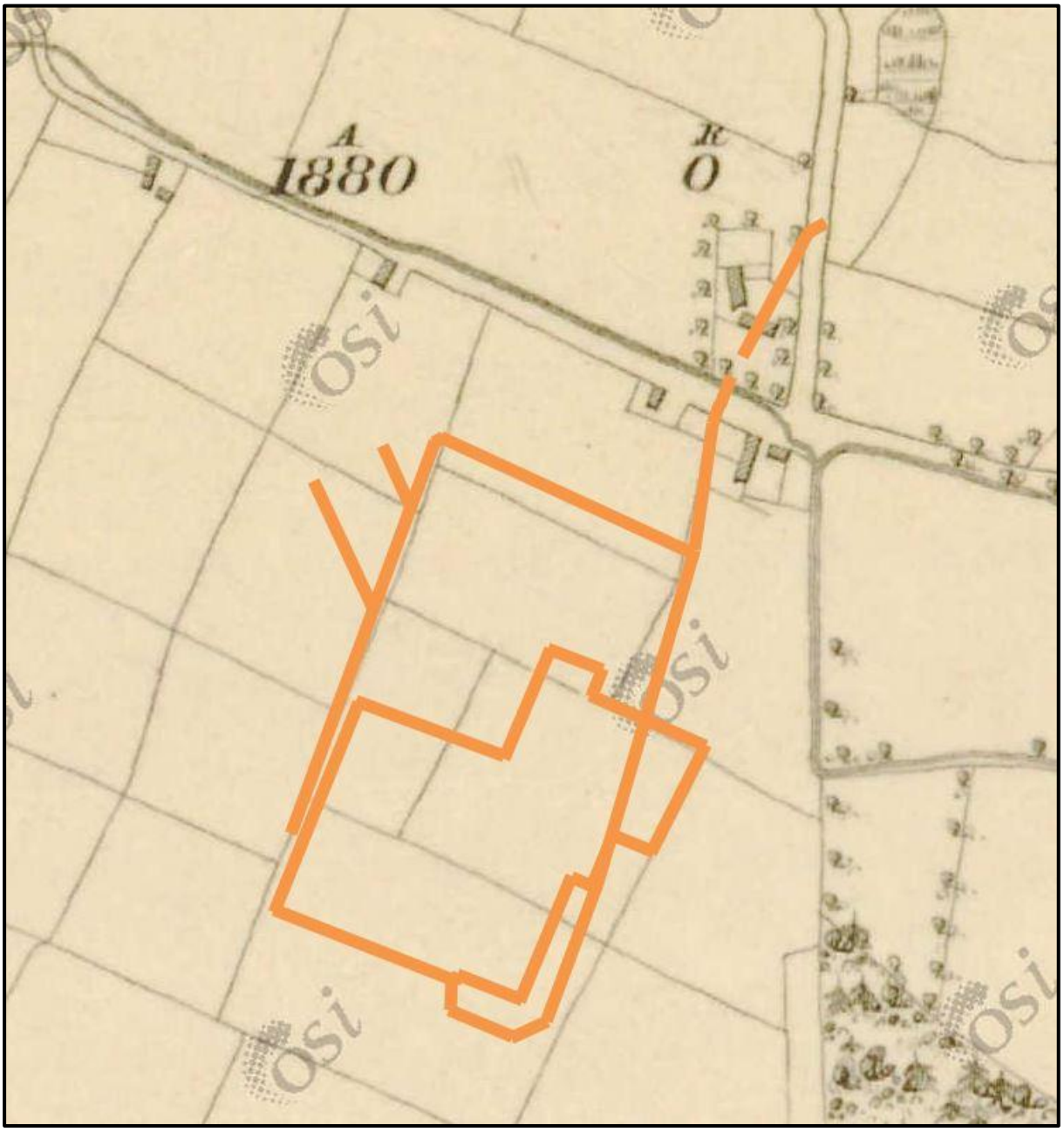

Figure 10.9: Extract from First Edition 1:10,560 Ordnance Survey map (1842), showing electricity substation and access track

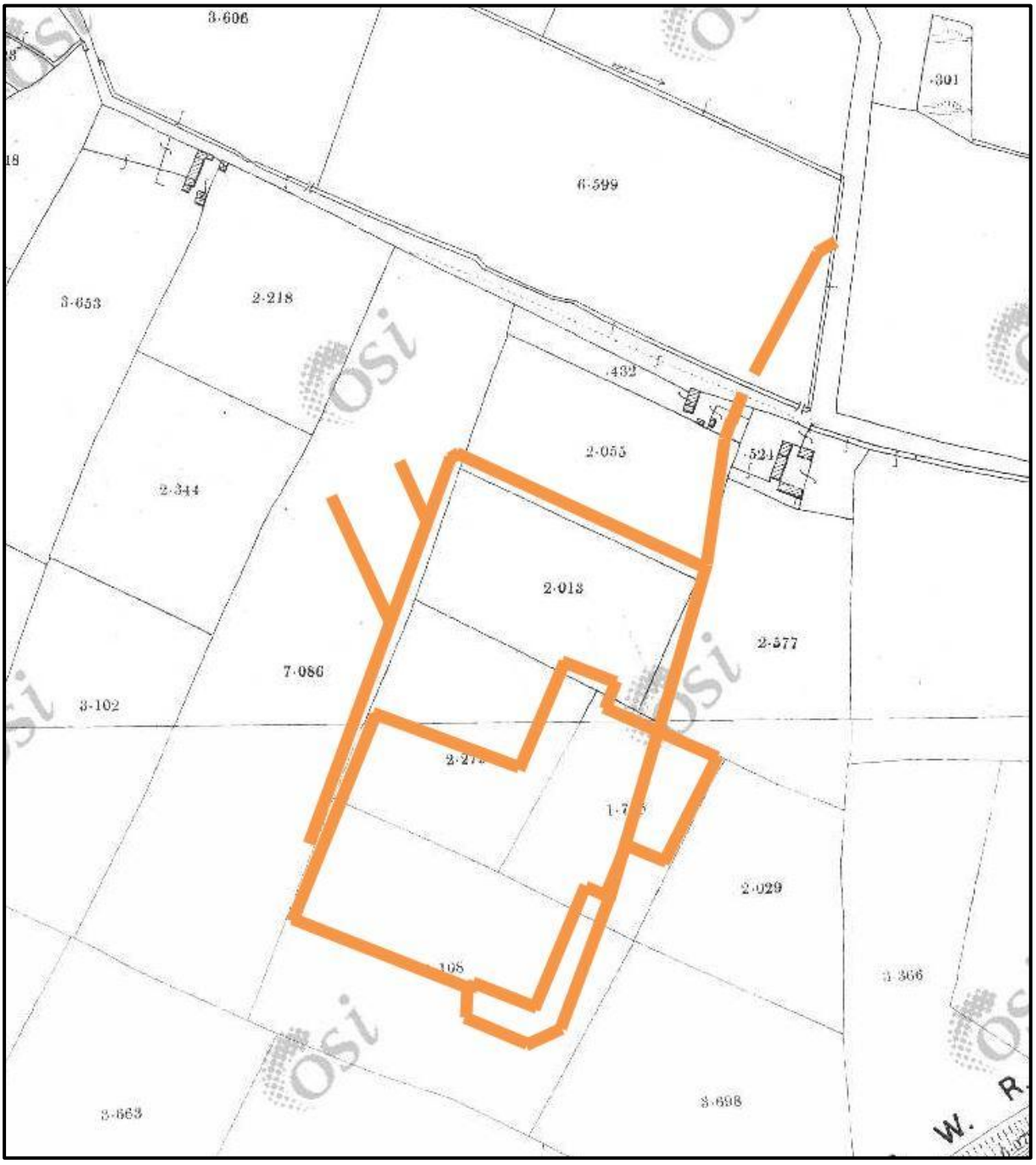

Figure 10.10: Extract from First Edition 1:2,500 Ordnance Survey map (1899 - 1902), showing electricity substation and access track

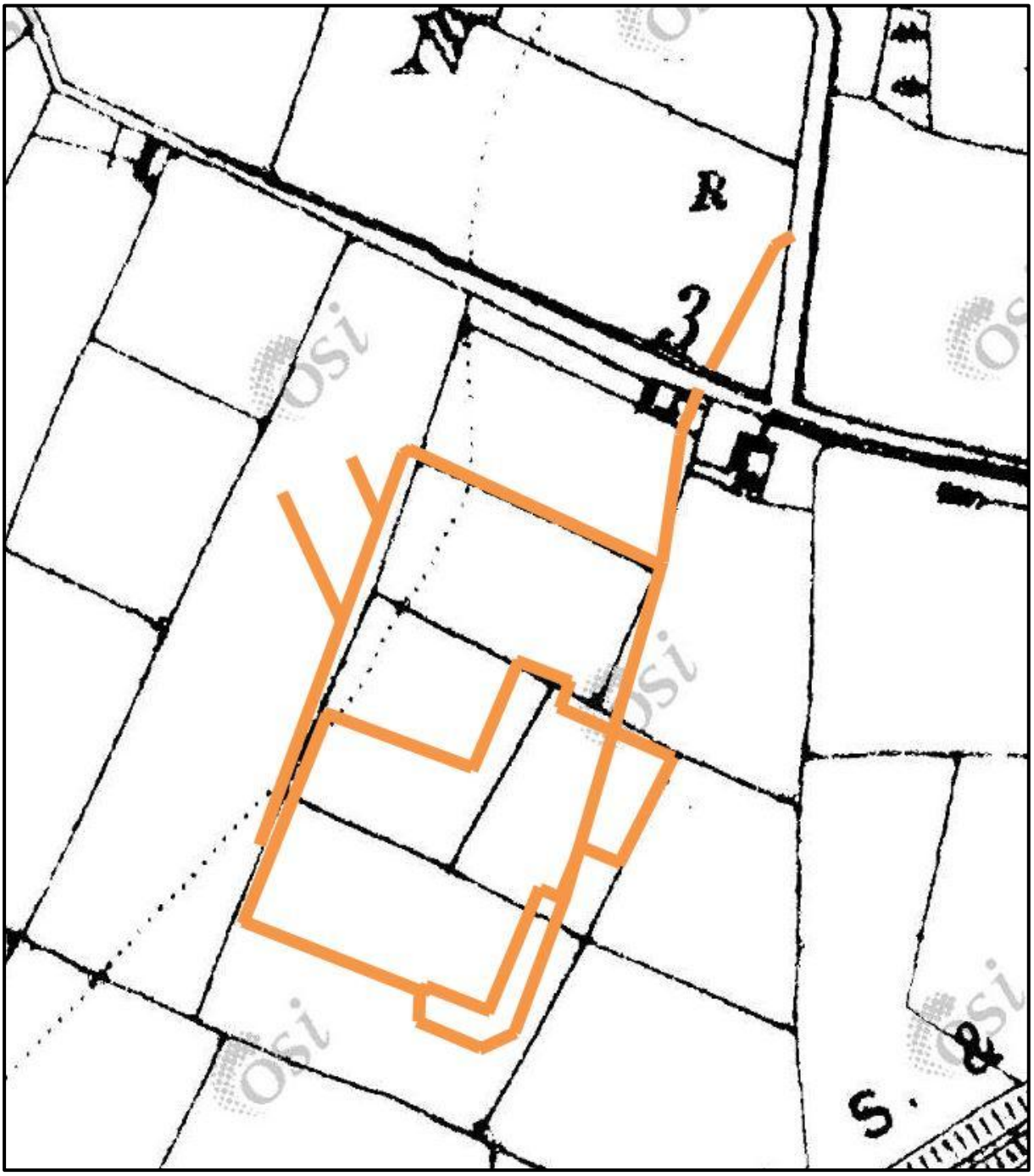

Figure 10.11: Extract from Third Edition 1:10,560 Ordnance Survey map (1902 - 1903), showing electricity substation and access track

Figure 10.12: Extract from First Edition 1:10,560 Ordnance Survey map (1839 and 1842), showing northern end of the underground electricity line

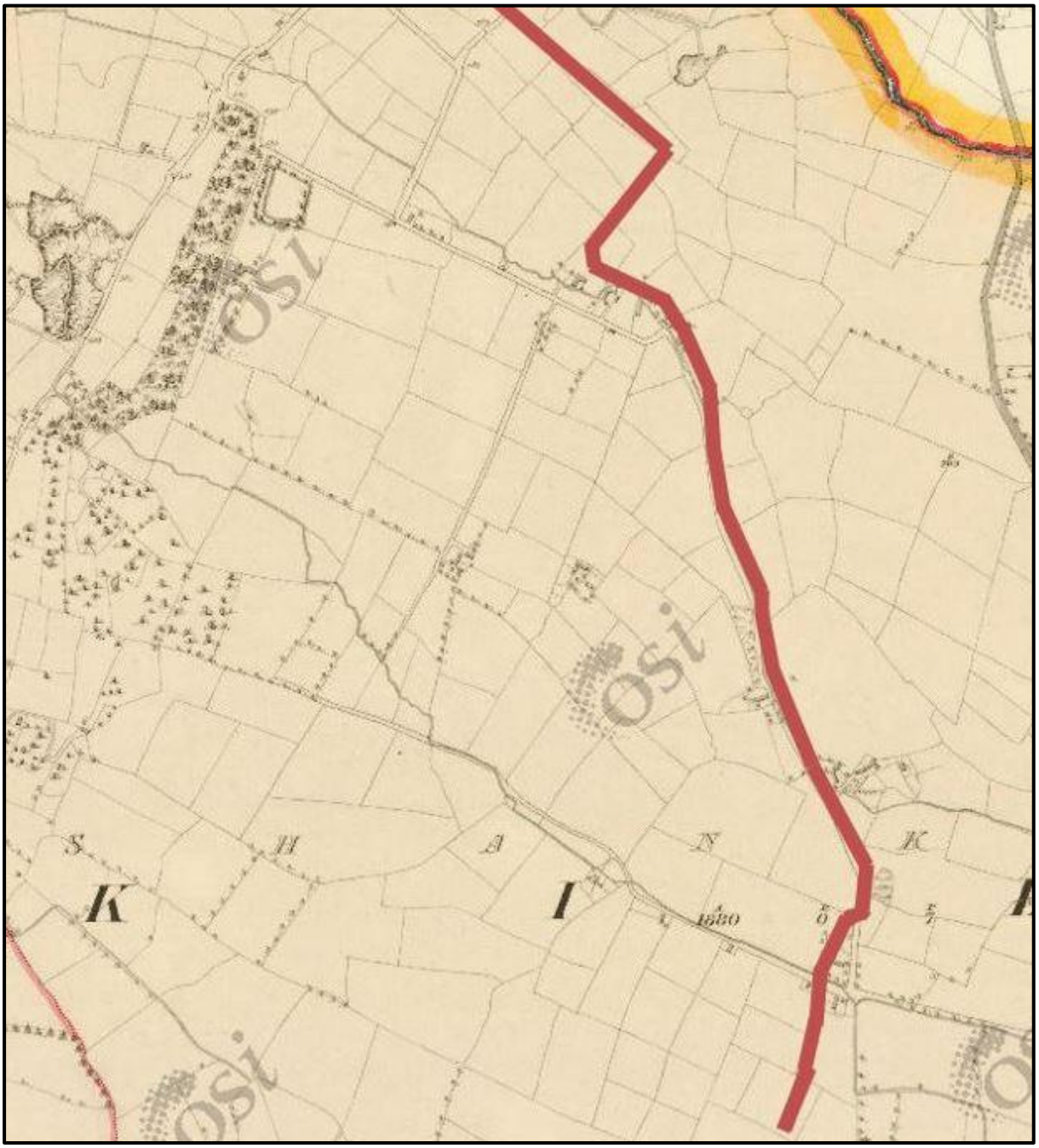

Figure 10.13: Extract from First Edition 1:10,560 Ordnance Survey map (1842), showing southern end of the underground electricity line

10.4.4 Aerial Photographs

Aerial photographs held by Ordnance Survey Ireland (map.geohive.ie) and Bing aerial photography (www.bing.com/maps) were consulted to examine for the presence of archaeological and architectural remains within the land take of the project.

There is no evidence of any archaeological or architectural features recorded on aerial photography within the site of the electricity substation or electrical control unit.

There is no evidence of any archaeological or architectural features recorded on

aerial photography within the route of the electricity line.

10.4.5 Topographical Files of the National Museum of Ireland

Information on artefact finds and excavations from County Carlow and 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) for a stone axehead found in Shankill townland, County Kilkenny. The axehead is in private possession, and it is noted as having been found in a tillage field at "*Black Acre*".

10.4.6 Previous Archaeological Fieldwork

RMP KK016-006 (linear earthwork) is located approximately 45m south of the electricity substation. 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 6 no. fieldwork exercises were carried out in Shankill townland, County Kilkenny, and 2 no. in Moanmore townland, County Carlow, as part of archaeological works for the N9/N10 Kilcullen to Waterford Road Scheme (www.excavations.ie). These revealed evidence for three possible prehistoric structures, a *fulacht fiadh*, 2 no. burnt mounds, a kiln and pits.

There are no additional fieldworks programmes recorded as having been carried out

in any townlands within the project site.

10.4.7 Toponyms

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

Name	Irish	Translation
Ballygorteen	*Buaile an Ghoirtín*	*Buaile* translates as cattle-fold, summer-pasture. *Goirtín* translates as little field.
Baunreagh	*An Bán Riabhach*	Grey field.
Lackan	*An Leacain*	The hillside.
Moanmore	*An Mhóin Mhór*	Great bog.
Shankill	*An tSeanchill*	Old church.

Table 10.2: Toponyms

10.4.8 National Monuments

The Department of Housing, Local Government and Heritage maintains a database on a county basis of National Monuments in State Care: Ownership and Guardianship. The term National Monument is defined in Section 2 of the National Monuments Act (1930) as:-

> "*a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto*." (www.archaeology.ie).

There are no National Monuments in State Care within the electricity substation site or within 2km of the substation.

There are no National Monuments in State Care within the electrical control unit site or within 2km of the electrical control unit.

There are no National Monuments in State Care within the route of the electricity line or within 100m of the electricity line.

The Department of Housing, Local Government and Heritage also maintains a database on a county basis of National Monuments with Preservation Orders or Temporary Preservation Orders. There are no National Monuments with Preservation Orders or Temporary Preservation Orders within the electricity substation site or within 2km of the substation.

There are no National Monuments with Preservation Orders or Temporary Preservation Orders within the electrical control unit site or within 2km of the electrical control unit.

There are no National Monuments with Preservation Orders or Temporary Preservation Orders within the route of the electricity line or within 100m of the electricity line.

There are no World Heritage Sites or sites included in the Tentative List as being under consideration for nomination to the World Heritage List within the electricity substation site or within 2km of the substation.

There are no World Heritage Sites or sites included in the Tentative List as being under

consideration for nomination to the World Heritage List within the electrical control unit site or within 2km of the electrical control unit.

There are no World Heritage Sites or sites included in the Tentative List as being under consideration for nomination to the World Heritage List within the route of the electricity line or within 100m of the electricity line.

10.4.9 County Development Plans

10.4.9.1 Archaeological Heritage

Carlow County Development Plan 2022-2028

It is a policy (AH. P1) of Carlow County Council (Carlow County Council 2022, 261) to:-

> "*Secure the preservation (either in situ or by record) of all archaeological monuments included in the Record of Monuments and Places (RMP) and their settings, and of all sites and features of significant archaeological or historical interest, including potential and previously unknown sites or features, in consultation with the National Monuments Service in the Department of Housing, Local Government and Heritage*."

It is a policy (AH. P3) of Carlow County Council (*ibid*.) to:-

> "*Protect, conserve and enhance the archaeological heritage of the County, and to manage development in a manner that avoids adverse impacts on sites, monuments, features or objects of significant archaeological or historical interest, including areas and sites of archaeological potential. There will be a presumption in favour of the 'preservation in situ' of archaeological heritage in accordance with the 'Framework and Principles for the Protection of Archaeological Heritage (DAGHI 1999) or any superseding national policy document*."

It is a policy (AH. P4) of Carlow County Council (*ibid*.) to:-

> "*Ensure that any development proposal that may, by reason of location, scale, nature, layout or design, have potential implications for archaeological heritage (including areas and sites of archaeological potential), shall be subject to an archaeological assessment. The archaeological assessment will seek to ensure that the development proposal can be sited and designed to avoid impacting on archaeological heritage. Any archaeological excavation shall be carried out in accordance with best practice outlined by the NMS, the National Museum of Ireland and the Institute of Archaeologists of Ireland. In all such cases the Planning Authority shall consult with the National Monuments Service in the Department of Housing, Local Government and Heritage*."

It is also a policy (AH. P5) of Carlow County Council (*ibid*., 262) to:-

> "*Have regard to the Record of Monuments (RMP) and Places, the Urban Archaeology Survey and archaeological sites identified subsequent to the publication of the RMP when assessing planning applications for development. No development shall be permitted in the vicinity of a recorded feature, where it detracts from the setting of the feature or which is injurious to its cultural or educational value*."

Table 10.3 of the *Carlow County Development Plan* (*ibid*., 263) contains a list of *Monuments in the Ownership of the State* within County Carlow. There are no Monuments in the Ownership of the State recorded in the *Carlow County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Monuments in the Ownership of the State recorded in the *Carlow County Development Plan* within the electrical control unit site or within 2km of the electrical control unit.

There are no Monuments in the Ownership of the State recorded in the Carlow County Development Plan within the route of the electricity line or within 100m of the electricity line.

Table 10.4 of the *Carlow County Development Plan* (*ibid*.) contains a list of *Monuments in the Guardianship of the State* within County Carlow. There are no Monuments in the Guardianship of the State recorded in the *Carlow County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Monuments in the Guardianship of the State recorded in the *Carlow County Development Plan* within the electrical control unit site or within 2km of the electrical control unit.

There are no Monuments in the Guardianship of the State recorded in the Carlow County Development Plan within the route of the electricity line or within 100m of the electricity line.

Table 10.5 of the *Carlow County Development Plan* (*ibid*.) contains a list of *Monuments to which Preservation Orders apply* within County Carlow. There are no Monuments to which Preservation Orders apply recorded in the *Carlow County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Monuments to which Preservation Orders apply recorded in the *Carlow County Development Plan* within the electrical control unit site or within 2km of the electrical control unit.

There are no Monuments to which Preservation Orders apply recorded in the *Carlow County Development Plan* within the route of the electricity line or within 100m of the electricity line.

Kilkenny City and County Development Plan 2021-2027

It is an Objective (9C) of Kilkenny County Council (Kilkenny County Council 2021, 143) to:-

> "*Protect archaeological sites and monuments (including their setting), underwater archaeology, and archaeological objects, including those that are listed in the Record of Monuments and Places, and in the Urban Archaeological Survey of County Kilkenny or newly discovered sub-surface and underwater archaeological remains*."

It is a Development Management Requirement of Kilkenny County Council (*ibid*.) to:-

> "*Endeavour to preserve in situ all archaeological monuments, whether on land or underwater, listed in the Record of Monuments and Places (RMP), and any newly discovered archaeological sites, features, or objects by requiring that archaeological remains are identified and fully considered at the very earliest*

stages of the development process and that schemes are designed to avoid impacting on archaeological heritage."

Section 9.3.1.1 of the *Kilkenny City and County Development Plan* (*ibid*., 141) contains a list of *Archaeological Landscapes* within County Kilkenny. There are no Archaeological Landscapes recorded in the *Kilkenny City and County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Archaeological Landscapes recorded in the *Kilkenny City and County Development Plan* within the electrical control unit site or within 2km of the electrical control unit.

There are no Archaeological Landscapes recorded in the Kilkenny City and County Development Plan within the route of the electricity line or within 100m of the electricity line.

Section 9.3.1.3 of the *Kilkenny City and County Development Plan* (*ibid*., 142) makes reference to *Walled Towns* within County Kilkenny. There are no Walled Towns recorded in the *Kilkenny City and County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Walled Towns recorded in the Kilkenny City and County Development Plan within the electrical control unit site or within 2km of the electrical control unit.

There are no Walled Towns recorded in the Kilkenny City and County Development Plan within the route of the electricity line or within 100m of the electricity line.

Section 9.3.1.4 of the *Kilkenny City and County Development Plan* (*ibid*.) makes reference to the *Industrial Heritage* of County Kilkenny. There are no Industrial Heritage features recorded in the *Kilkenny City and County Development Plan* within the electricity substation site.

There are no Industrial Heritage features recorded in the Kilkenny City and County Development Plan within the electrical control unit site.

There are no Industrial Heritage features recorded in the Kilkenny City and County Development Plan within the route of the electricity line.

Section 9.3.1.5 of the *Kilkenny City and County Development Plan* (*ibid*., 144) makes reference to *Conservation Plans* within County Kilkenny. There are no areas for which Conservation Plans have been prepared recorded in the *Kilkenny City and County Development Plan* within the electricity substation site or within 2km of the substation.

There are no areas for which Conservation Plans have been prepared recorded in the Kilkenny City and County Development Plan within the electrical control unit site or within 2km of the electrical control unit.

There are no areas for which Conservation Plans have been prepared recorded in the Kilkenny City and County Development Plan within the route of the electricity line or within 100m of the electricity line.

Section 9.3.1.6 of the *Kilkenny City and County Development Plan* (*ibid*.) makes reference to *Historic Graveyards* within County Kilkenny. There are no Historic Graveyards recorded in the *Kilkenny City and County Development Plan* within the electricity substation site.

There are no Historic Graveyards recorded in the Kilkenny City and County

Development Plan within the electrical control unit site.

There are no Historic Graveyards recorded in the Kilkenny City and County Development Plan within the route of the electricity line.

10.4.9.2 Architectural Heritage

Carlow County Development Plan 2022-2028

It is a Policy (PS. P1) of Carlow County Council (Carlow County Council 2022, 265) to:-

> "*Ensure the protection of the architectural heritage of County Carlow, through the identification of Protected Structures, the designation of Architectural Conservation Areas, and the recognition of structures and features in the County that make a positive contribution to vernacular and industrial heritage*."

It is also a Policy (PS. P2) of Carlow County Council (*ibid*.) to:-

> "*Ensure the protection and conservation of the character, setting and special interest of all buildings, structures (or parts of structures) and sites, listed in the Record of Protected Structures, including their curtilage, attendant grounds, and fixtures and fitting*."

It is an Objective (PS. O1) of Carlow County Council (*ibid*., 266) to:-

> "*Review and amend on an ongoing basis the Record of Protected Structures, and make additions, deletions or corrections as appropriate over the period of this Plan*."

Appendix VIII of the *Carlow County Development Plan* (*ibid*.) contains the *Record of Protected Structures for County Carlow*. There are no Protected Structures recorded in the *Carlow County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Protected Structures recorded in the *Carlow County Development Plan* within the electrical control unit site or within 2km of the electrical control unit.

There are no Protected Structures recorded in the *Carlow County Development Plan* within the route of the electricity line or within 100m of the electricity line.

Section 10.15 of the *Carlow County Development Plan* (*ibid*., 267) contains a list of *Architectural Conservation Areas* within County Carlow. There are no Architectural Conservation Areas recorded in the *Carlow County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Architectural Conservation Areas recorded in the *Carlow County Development Plan* within the electrical control unit site or within 2km of the electrical control unit.

There are no Architectural Conservation Areas recorded in the *Carlow County Development Plan* within the route of the electricity line or within 100m of the electricity line.

Kilkenny City and County Development Plan 2021-2027

It is an Objective (9G) of Kilkenny County Council (Kilkenny County Council 2021, 146) to:-

> "*Respond to the Ministerial recommendation to include in the RPS, structures*

which have been identified as being of regional, national or international significance in the National Inventory of Architectural Heritage survey and to consider for inclusion those rated as being of local significance."

It is also an Objective (9H) of Kilkenny County Council (*ibid*.) to:-

"*Continue to review the Record of Protected Structures and add or delete structures as appropriate*."

Appendix I of the *Kilkenny City and County Development Plan* (*ibid*.) contains the *Record of Protected Structures for County Kilkenny*. There are no Protected Structures recorded in the *Kilkenny City and County Development Plan* within the electricity substation site. There are 9 no. Protected Structures recorded in the *Kilkenny City and County Development Plan* within 2km of the electricity substation (all of which are recorded on the National Inventory of Architectural Heritage) (**Figure 10.14**):-

- Catholic Church (RPS no. C286) located *c*. 1.2km south east of the electricity substation;
- Church of Ireland Church (RPS no. C307) located *c*. 1.2km east of the electricity substation;
- Shankill Castle (RPS no. C377b) located *c*. 660m south east of the electricity substation;
- Vernacular House (RPS no. C409) located *c*. 1.1km south east of the electricity substation;
- Gateway, Shankill Castle (RPS no. C1027) located *c*. 940m south east of the electricity substation;
- Gateway, Shankill Castle (RPS no. C1028) located *c*. 1.1km south east of the electricity substation;
- Gate Lodge, Shankill Castle (RPS no. C1029) located *c*. 790m east of the electricity substation;
- Farmyard Complex, Shankill Castle (RPS no. C1030) located *c*. 620m east of the electricity substation; and,
- Gate Lodge, Shankill Castle (RPS no. C1031) located *c*. 740m east of the electricity substation.

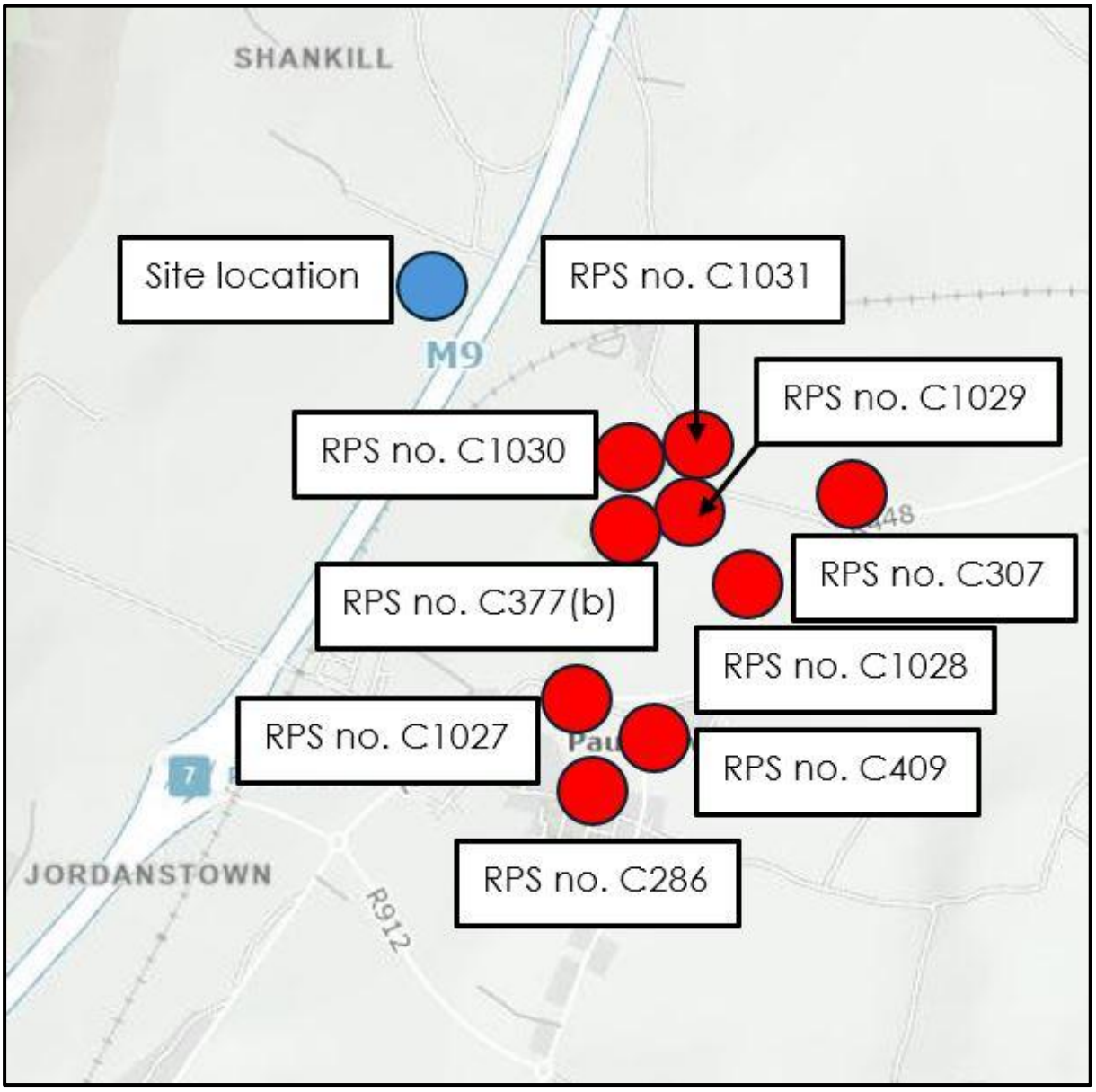

Figure 10.14: Protected Structures recorded in the Kilkenny City and County Development Plan within 2km of the electricity substation

There are no Protected Structures recorded in the *Kilkenny City and County Development Plan* within the electrical control unit site or within 2km of the electrical control unit.

There are no Protected Structures recorded in the *Kilkenny City and County Development Plan* within the route of the electricity line or within 100m of the electricity line.

Section 9.3.3.1/Table 2 of the *Kilkenny City and County Development Plan* (*ibid.*, 149) contains a list of *Archaeological Conservation Areas* within County Kilkenny. There are no Architectural Conservation Areas recorded in the *Kilkenny City and County Development Plan* within the electricity substation site or within 2km of the substation.

There are no Architectural Conservation Areas recorded in the Kilkenny City and County Development Plan within the electrical control unit site or within 2km of the

electrical control unit.

There are no Architectural Conservation Areas recorded in the Kilkenny City and County Development Plan within the route of the electricity line or within 100m of the electricity line.

10.4.9.3 Cultural Heritage

Carlow County Development Plan 2022-2028

The *Carlow County Development Plan* (2022) does not contain any designated lists or sites of cultural heritage importance or significance.

Kilkenny City and County Development Plan 2021-2027

The *Kilkenny City and County Development Plan* (2021) does not contain any designated lists or sites of cultural heritage importance or significance.

10.4.10 National Inventory of Architectural Heritage

10.4.10.1 Building Survey

The National Inventory of Architectural Heritage maintains a non-statutory register of buildings, structures, *etc*. recorded on a county basis (www.buildingsofireland.ie).

There are no structures recorded on the National Inventory of Architectural Heritage within the electricity substation site. There are 16 no. structures recorded on the National Inventory of Architectural Heritage within 2km of the electricity substation (9 no. of which are recorded as Protected Structures):-

- Gateway, Shankill Castle (NIAH no. 12306001) located c. 940m south east of the electricity substation;
- Shankill Castle (NIAH no. 12306002) located c. 660m south east of the electricity substation;
- Gateway, Shankill Castle (NIAH no. 12306003) located c. 1.1km south east of the electricity substation;
- Church of Ireland Church (NIAH no. 12306004) located c. 1.2km east of the electricity substation;
- Gate Lodge, Shankill Castle (NIAH no. 12306005) located c. 790m east of the electricity substation;
- Farmyard Complex, Shankill Castle (NIAH no. 12306006) located c. 620m east of the electricity substation;
- Gate Lodge, Shankill Castle (NIAH no. 12306007) located c. 740m east of the electricity substation;
- Convent/Nunnery (NIAH no. 12306008) located c. 1.2km south east of the electricity substation;
- Catholic Church (NIAH no. 12306009) located c. 1.2km south east of the electricity substation;
- Paulstown National School (NIAH no. 12306010) located c. 1.3km south east of the electricity substation;
- Whitehall House (NIAH no. 12306011) located c. 1.3km south east of the electricity substation;
- Parochial House (NIAH no. 12306012) located c. 1.2km south east of the

electricity substation;
- Vernacular House (NIAH no. 12306013) located c. 1.1km south east of the electricity substation;
- House (NIAH no. 12306014) located c. 1km south east of the electricity substation;
- Bridge (NIAH no. 12306015) located c. 900m south of the electricity substation; and,
- Cemetery (NIAH no. 12306016) located c. 1.4km south of the electricity substation.

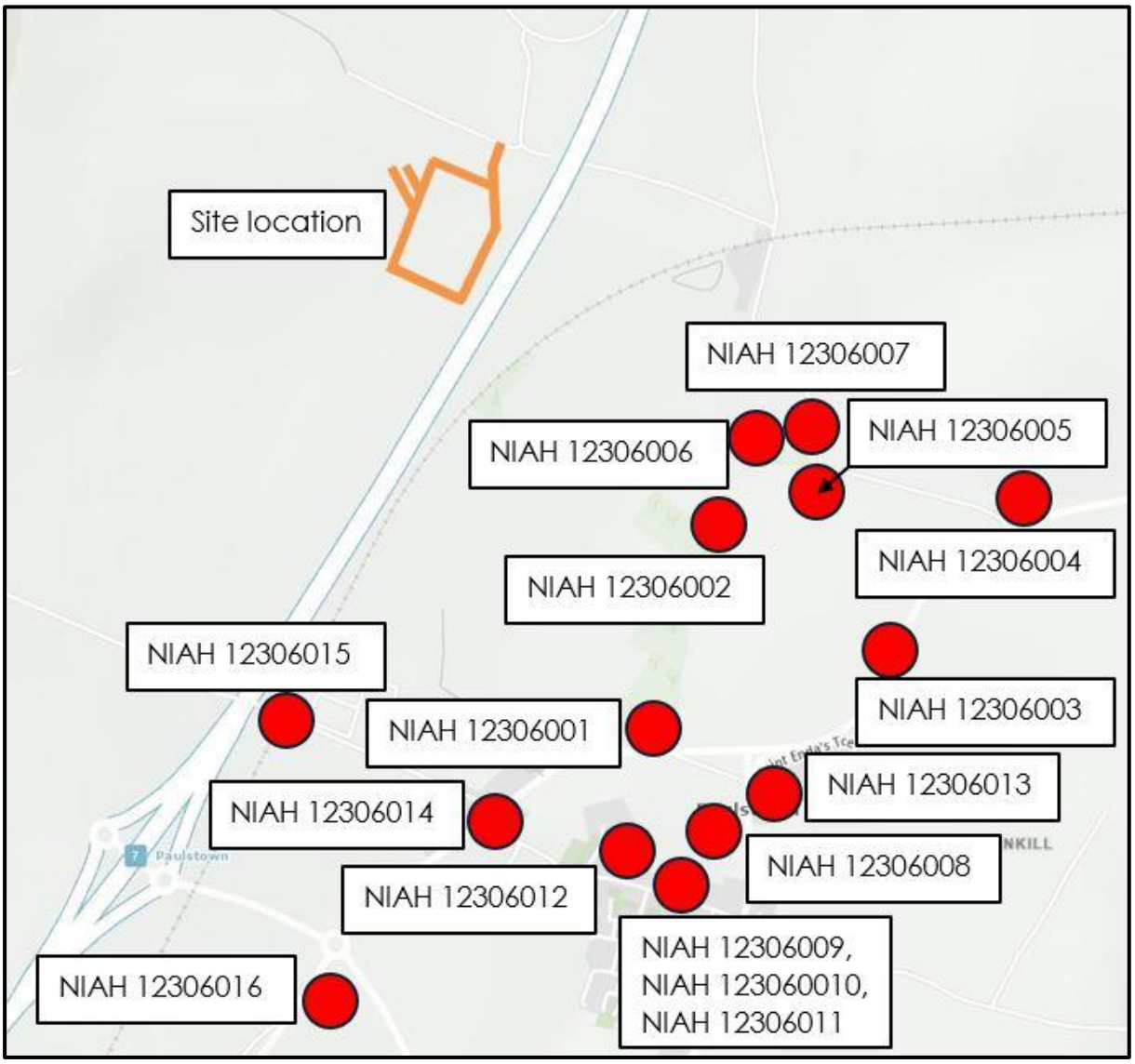

Figure 10.15: Structures recorded on the National Inventory of Architectural Heritage within 2km of the electricity substation

There are no structures recorded on the National Inventory of Architectural Heritage within the electrical control unit site or within 2km of the electrical control unit.

There are no structures recorded on the National Inventory of Architectural Heritage within the route of the electricity line or within 100m of the electricity line.

10.4.10.2 Historic Gardens and Designed Landscapes

There are no historic gardens or designed landscapes recorded on the National Inventory of Architectural Heritage within the electricity substation site.

There are no historic gardens or designed landscapes recorded on the National Inventory of Architectural Heritage within the electrical control unit site.

There are no historic gardens or designed landscapes recorded on the National Inventory of Architectural Heritage within the route of the electricity line.

10.4.11 Site-Specific Archaeological Fieldwork

10.4.11.1 Site Visit

Field inspection is necessary to determine the extent, character and condition of archaeological, architectural and cultural heritage features, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. The site visit for the electricity substation site was carried out on 22 May 2024 in wet weather conditions. The site visit for the electrical control unit site was carried out on 15 September 2021 in dry weather conditions.

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

A windshield survey of the route of the underground electricity line on public roads was carried out on 4 September 2024 in dry and bright weather conditions. The off-road sections of the underground electricity line which were visible from the public road were also visually inspected.

No archaeological, architectural or cultural heritage features were revealed within the site of the electricity substation or the electrical control unit as a result of carrying out the walkover survey.

No archaeological, architectural or cultural heritage features were revealed within the route of the underground electricity line on public roads as a result of carrying out the windshield survey.

10.4.11.2 Geophysical Survey

A geophysical survey of the site of the electricity substation was carried out in June 2024 (Target Archaeological Geophysics Ltd. 2024; **Annex 10.1**). A total of c. 7.6ha of high-resolution recorded magnetometry was completed in 6 no. fields within the wider site boundary of the development, examining all lands suitable for geophysical investigation at the time of fieldwork (**Figure 10.16**).

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*".

Figure 10.16: Aerial Photograph showing the extent of the geophysical survey

Geophysical Anomaly C (**Figure 10.17**) 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 10.17**) that was considered to be of archaeological potential 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*".

Figure 10.17: Results of the geophysical survey

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 10.18**).

A final report outlining the results of the geophysical survey has been submitted to National Monuments Service (Department of Housing, Local Government and Heritage) and the National Museum of Ireland.

10.4.11.3 Test Trenching

Test trenching was carried out under Licence to National Monuments Service

(Department of Housing, Local Government and Heritage) and the National Museum of Ireland within the site of the electricity substation between 21 and 23 October 2024 (Horizon Archaeology Ltd. 2024; **Annex 10.2**). 15 no. test trenches were excavated (**Figure 10.18**) which revealed topsoil directly sealing geologically deposited strata in all of the test trenches.

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 effects 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.

1 no. archaeological feature, which took the form of a small sub-oval pit, was revealed along the route of the access track at the western side of the electricity substation. This below-ground feature corresponds with Anomaly C from the geophysical survey (**Figure 10.17**). The feature was preserved *in situ* during test trenching and will be preserved *in situ* in its entirety.

A final report outlining the results of the test trenching has been submitted to National Monuments Service (Department of Housing, Local Government and Heritage) and the National Museum of Ireland.

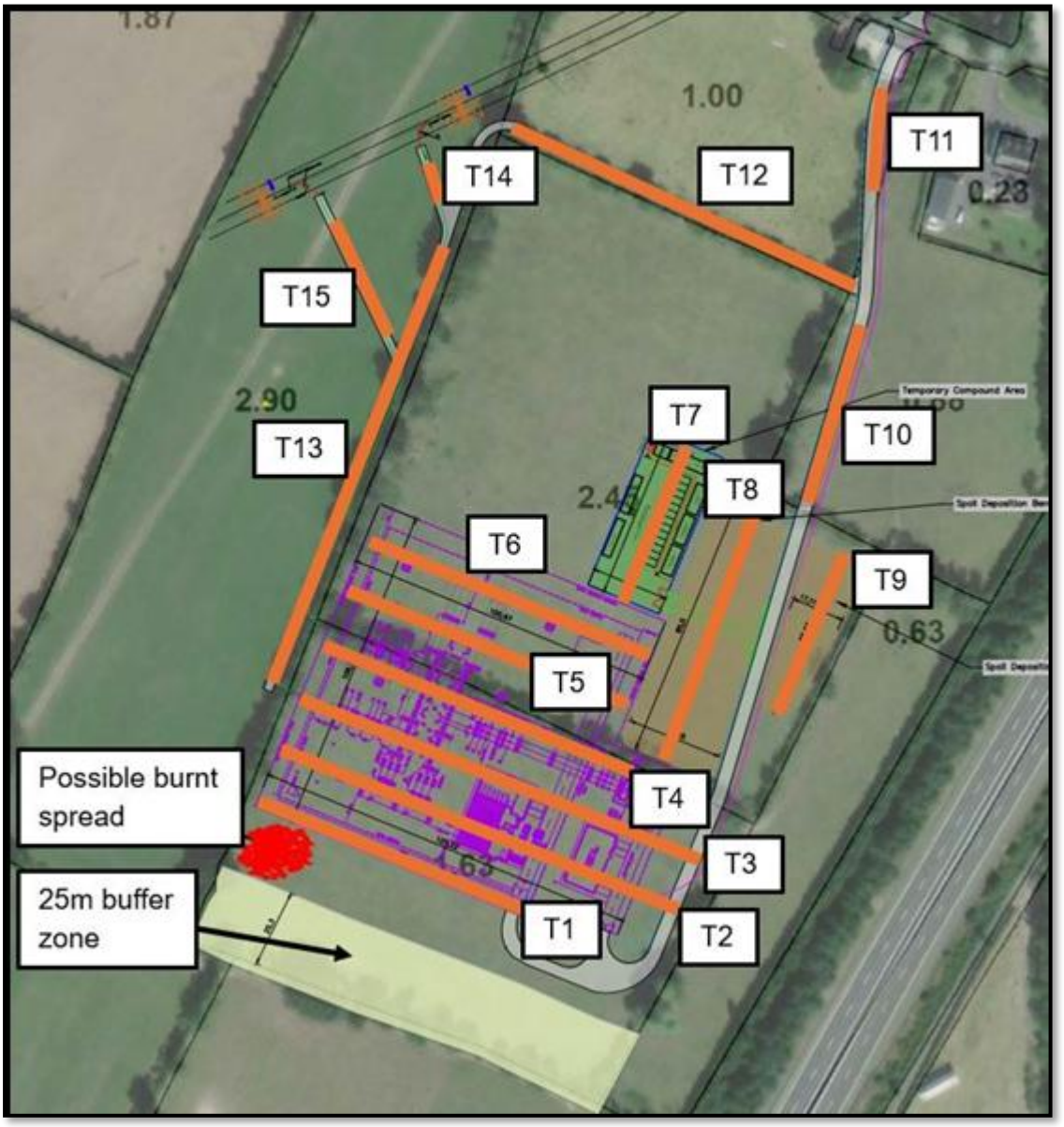

Figure 10.18: Location of Test Trenches 1-15

10.5 Description of Likely Effects

All elements of the project are assessed as having the potential to affect or impact upon archaeological, architectural or cultural heritage features either during the construction phase through excavations, or through visual effects during the operational phase. Decommissioning phase effects are not assessed as likely as described below.

Construction phase effects may arise as a result of excavation for the electricity substation and electrical control unit, underground electricity line and associated activities; each of which will involve the mechanical excavation of overburden down to and through geologically deposited strata at their identified locations. Operational phase effects may arise as a result of the visual effects resulting from the presence of the electricity substation and electrical control unit in the landscape.

As a result of carrying out this assessment, the following likely archaeological, architectural and cultural heritage direct, indirect, construction, operational, decommissioning, cumulative and residual effects have been assessed. The following sections undertake an assessment of all elements of the project described in **Chapter 3**.

10.5.1 Construction Phase

10.5.1.1 Archaeological Resource

There are no Recorded Monuments or any additional statutorily protected archaeological features within the footprint of the project (electricity substation, electrical control unit and route of electricity line). Accordingly, it is assessed that there will be no direct construction phase effect on the recorded archaeological resource.

There is 1 no. Recorded Monument within 100m of the electricity substation. There are an additional 17 no. Recorded Monuments within 1km of the electricity substation. A Redundant Record is recorded approximately 920m south west of the electrical control unit. There are 4 no. Recorded Monuments within 100m of the underground electricity line.

It is assessed that there will be a likely permanent, direct and imperceptible construction phase effect on any previously unrecorded archaeological remains that may exist within the project site and which may be discovered during the construction phase.

It is assessed that there will be a likely temporary, reversible and imperceptible construction phase visual and noise effect on the archaeological resource.

It is assessed that there will be a likely permanent, direct and imperceptible construction phase effect on any townland, parish, barony or county boundaries that may be affected by the project.

There will be no direct or indirect construction phase effect on any watercourses. The underground electricity line will traverse 5 no. watercourses via horizontal directional drilling (HDD). As such, no in-stream works are required and there will be no effect on underwater archaeology.

10.5.1.2 Architectural Resource

There are no Protected Structures or structures recorded on the NIAH within the footprint of the project (electricity substation, electrical control unit and route of electricity line). Accordingly, it is assessed that there will be no direct construction phase effect on the architectural resource.

There are 9 no. Protected Structures within 2km of the electricity substation (all of which are recorded on the National Inventory of Architectural Heritage). There are 16 no. structures recorded on the National Inventory of Architectural Heritage within 2km of the electricity substation (9 no. of which are recorded as Protected Structures). There are no Protected Structures or NIAH structures within 2km of the electrical control unit. There are no Protected Structures or NIAH structures within 100m of the electricity line.

It is assessed that there will be a likely temporary, reversible and imperceptible

construction phase visual and noise effect on the architectural resource.

10.5.1.3 Cultural Heritage Resource

There are no protected cultural heritage features within the footprint of the project (electricity substation, electrical control unit and route of electricity line) or within 2km of the project. It is assessed that there will be no direct or indirect construction phase effect on the cultural heritage resource.

10.5.2 Operational Phase

10.5.2.1 Archaeological Resource

There are no Recorded Monuments or any additional statutorily protected archaeological features within the footprint of the project (electricity substation, electrical control unit and route of electricity line). There is 1 no. Recorded Monument within 100m of the electricity substation. There are an additional 17 no. Recorded Monuments within 1km of the electricity substation. A Redundant Record is recorded approximately 920m south west of the electrical control unit. It is assessed that, due to the proximity of the electricity substation, there will be a likely long-term, reversible and slight operational phase visual effect on 1 no. Recorded Monument (RMP KK016-006: linear earthwork). It is assessed, based on analysis of photomontages prepared for the project (**Annex 9.1**), that there will be a likely long-term, reversible and not significant operational phase visual effect on the additional 17 no. Recorded Monuments within 1km of the electricity substation.

It is assessed that there will be a likely long-term, reversible and imperceptible operational phase noise effect on the archaeological resource.

It is assessed that operation of the electricity line will have no likely operational phase effects on the archaeological resource.

10.5.2.2 Architectural Resource

There are no Protected Structures or structures recorded on the NIAH within the footprint of the project (electricity substation, electrical control unit and route of electricity line). There are 9 no. Protected Structures within 2km of the electricity substation (all of which are recorded on the National Inventory of Architectural Heritage). There are 16 no. structures recorded on the National Inventory of Architectural Heritage within 2km of the electricity substation (9 no. of which are recorded as Protected Structures). There are no Protected Structures or NIAH structures within 2km of the electrical control unit. It is assessed, based on analysis of photomontages prepared for the project (**Annex 9.1**), that there will be a likely long-term, reversible and not significant operational phase visual effect on the architectural resource.

It is assessed that there will be a likely long-term, reversible and imperceptible operational phase noise effect on the architectural resource.

It is assessed that operation of the electricity line will have no likely operational phase effects on the architectural resource.

10.5.2.3 Cultural Heritage Resource

There are no protected cultural heritage features within the footprint of the project (electricity substation, electrical control unit and route of electricity line) or within 2km

of the project. It is assessed that there will be no likely direct or indirect operational phase effect on the cultural heritage resource.

10.5.3 Decommissioning Phase

As set out at **Chapter 3** (**Sections 3.2** and **3.7**), the electricity substation will form part of the national electricity network and decommissioning of the project is not proposed. Therefore, decommissioning phase effects associated with the electricity substation will not occur.

The electrical control unit and underground electricity line, connecting the permitted White Hill Wind Farm to the electricity substation, will be decommissioned upon the decommissioning of White Hill Wind Farm. The electricity line will be disconnected from the electricity substation and electrical control unit and removed from the ducting. At the locations of the jointing plinths, small excavations will be undertaken to expose the ducting and the electricity line will be removed in sections between the respective jointing plinths. In order to minimise ground disturbance, the ducting shall be left *in situ*. It is assessed there will be no decommissioning phase effects on archaeological, architectural or cultural heritage resource.

10.5.4 Cumulative Effects

Cumulative effects are defined as:-

> "*The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects*" (Environmental Protection Agency 2022, Section 3: 52).

Construction phase cumulative effects are largely concerned with direct impacts on any unrecorded sub-surface archaeological features or artefacts which may exist within the area where it is proposed to construct the project. There will be no interaction between any archaeological remains which might survive within the project site and any other existing, proposed or permitted developments (refer to **Chapter 1**) within the general area. As likely direct effects on the archaeological, architectural and cultural heritage resource will be localised and contained within the project site and have been assessed and mitigated (in respect of the subject project), cumulative direct effects are not likely to occur during the construction phase of the project.

Given the relatively small-scale nature of the project, the fact that the 2 no. control buildings within the electricity substation and the electrical control unit will be single-storey, and that the electricity line will be underground, it is assessed that there will be no cumulative operational effects between the project and any existing, proposed or permitted developments within the general area.

10.5.5 Do Nothing Effects

If the project were not to proceed, there would be no likely effect on the archaeological, architectural or cultural heritage resource.

10.5.6 Interactive Effects

The excavation of soil during the construction of the project may result in the discovery of previously unrecorded cultural heritage features; and, therefore, it is assessed that there is a likelihood for interaction between land and soil and cultural heritage.

However, on the basis of this assessment, it is concluded that the effect of interaction is not likely to be significant.

During the operational phase, it is assessed that the project will likely result in, at worst, slight visual effects on archaeological and architectural heritage features; and, therefore, will result in, at worst, a slight interaction between heritage and landscape.

10.5.7 Risk of Accidents

It is assessed that there will be no likely effects on the archaeological, architectural or cultural heritage resource as a result of any unplanned accidents which may occur during either the construction or operational phases.

10.5.8 Worst Case Effects

It is assessed that, under a 'worst-case' scenario, and in the absence of mitigation, there would be a likely permanent and direct construction phase effect on any previously unrecorded archaeological remains that may exist within the project site.

10.6 Mitigation and Monitoring Measures

The design and layout of the project, and particularly the electricity substation, has been heavily influenced by the presence of the Recorded Monument (RMP KK016-006: linear earthwork) and the presence of features of potential archaeological significance identified during the geophysical survey and test trenching. In this regard, the precise layout of the project has been revised on a number of occasions to mitigate, insofar as practicable, the likelihood of significant adverse effects.

In the first instance, the siting and layout of the electricity substation has sought to maximise the separation distance to the linear earthwork to avoid the likelihood of adverse effects on the feature.

Furthermore, a 25m buffer zone has been applied around the western, eastern and southern sides of the possible burnt spread as revealed in the geophysical survey to ensure its protection and to avoid any likelihood of adverse effects. A test trench located to the north of the burnt spread confirmed that the electricity substation does not encroach into the extent of the burnt spread therefore confirming that there will be no direct effect on this feature.

Finally, the alignment of the access track to the west of the electricity substation has been designed such that it does not affect the sub-oval pit which is present at this location. In addition, and as a further layer of protection, the access track has been designed to be of floated construction where it is located within 10m of the pit, with no sub-surface excavations being permitted within this area.

10.6.1 Mitigation Measures

The following mitigation measures are proposed for the construction phase of the project:-

- Archaeological monitoring of all excavations associated with construction of the electricity substation shall 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;
- Archaeological monitoring of all excavations associated with construction of the electrical control unit shall 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;
- Archaeological monitoring of all excavations associated with construction of the underground electricity line shall 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;
- Archaeological monitoring of all excavations at townland, parish, barony and county boundaries shall 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; and,
- Written and photographic records will be created of any townland, parish, barony and county boundaries that may be impacted on. The written and photographic records will be created in advance of excavations commencing on site.

No mitigation measures are assessed as required for the operational or decommissioning phases.

10.6.2 Micrositing

Given its proximity to a Recorded Monument (RMP KK016-006: linear earthwork), it is confirmed that micrositing of infrastructure will not be considered at the site of the electricity substation should it result in infrastructure moving closer to the site of the Recorded Monument.

10.6.3 Monitoring Measures

With the exception of the mitigation measures recommended in **Section 10.6.1** which will be implemented in advance of and during the construction phase, there are no future monitoring requirements.

10.7 Residual Effects

Following the implementation of the above mitigation measures, it is assessed that there will be no likely significant residual effects during the construction or decommissioning phases of the project. Residual effects during the operational phase are addressed below.

10.7.1 Archaeological Resource

It is assessed that there will be a likely long-term, reversible and slight residual operational phase visual effect on 1 no. Recorded Monument (RMP KK016-006: linear earthwork).

It is assessed that there will be a likely long-term, reversible and not significant residual operational phase visual effect on the additional 17 no. Recorded Monuments within 1km of the electricity substation.

It is assessed that there will be a likely long-term, reversible and imperceptible residual operational phase noise effect on the archaeological resource.

It is assessed that there will be no residual operational phase effects on the archaeological resource as a result of the underground electricity line.

10.7.2 Architectural Resource

It is assessed that there will be a likely long-term, reversible and not significant residual operational phase visual effect on the architectural resource.

It is assessed that there will be a likely long-term, reversible and imperceptible residual operational phase noise effect on the architectural resource.

It is assessed that there will be no residual operational phase effects on the architectural resource as a result of the underground electricity line.

10.7.3 Cultural Heritage Resource

It is assessed that there will be no likely significant residual effects on the cultural heritage resource.

10.8 Summary

The likelihood of effects; in relation to construction, operational, decommissioning, cumulative and residual effects; have been set out in the foregoing sections. This assessment has concluded that the effect on the archaeological, architectural and cultural heritage resource of the project (electricity substation, electrical control unit and route of electricity line) will in general be long-term, reversible and, at worst, slight.

There will be no likely significant direct or indirect construction phase effects on the recorded archaeological, architectural or cultural heritage resource. However, there will be a likely long-term, reversible and slight operational phase visual effect on 1 no. Recorded Monument (RMP KK016-006: linear earthwork); a likely long-term, reversible and not significant operational phase visual effect on the additional 17 no. Recorded Monuments within 1km of the electricity substation; and a likely long-term, reversible and imperceptible operational phase noise effect on the archaeological resource. In addition, there will be a likely long-term, reversible and not significant operational phase visual effect on the architectural resource and a likely long-term, reversible and imperceptible operational phase noise effect on the architectural resource.

Following the implementation of mitigation measures outlined above, the likely residual effects of the project remain, at worst, slight. There will be a likely long-term, reversible and slight residual operational phase visual effect on 1 no. Recorded Monument (RMP KK016-006: linear earthwork); a likely long-term, reversible and not significant residual operational phase visual effect on the additional 17 no. Recorded Monuments within 1km of the electricity substation; and a likely long-term, reversible and imperceptible residual operational phase noise effect on the archaeological resource. In addition, there will be a likely residual long-term, reversible and not significant operational phase visual effect on the architectural resource and a likely residual, long-term, reversible and imperceptible operational phase noise effect on

the architectural resource.

This assessment has further concluded that the project will not result in any likely significant cumulative effects with other existing, permitted or proposed development; including those identified at **Chapter 1**.

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