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Volume 2:

17

Archaeology and Cultural Heritage

17.0 Archaeology, Architecture and Cultural Heritage

17.1 Introduction

The following chapter details an archaeological, architectural and cultural heritage assessment undertaken in advance of a proposed biomethane and bio-based fertilizer production facility within the townland of Killoran, County Tipperary (Figure 17.1, ITM 621183, 666537). This assessment has been carried out to ascertain the potential impact of the proposed development on the archaeological, architectural and historical resource that may exist within the area. This assessment was undertaken by Faith Bailey and Jacqui Anderson of IAC Archaeology (IAC).

17.1.1 Guidance and Legislation

This assessment has been undertaken having regard to the following legislation and guidelines:

- National Monuments Act 1930 to 2014;
- The Planning and Development Acts 2000 to 2018;
- Planning & Development Regulations 2001–2018;
- Heritage Act, 1995, as amended;
- Heritage Act 2018;
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht and Islands; and
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 and the Local Government (Planning and Development) Acts 2000–2018.

17.1.2 Consultation

Following the initial research, a number of statutory and voluntary bodies were consulted to gain further insight into the cultural background of the background environment, receiving environment and study area, as follows: -

- Department of Housing, Local Government and Heritage (DoHLGH) – the Heritage Service, National Monuments: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database and Preservation Orders.
- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland.
- Tipperary County Council: Planning Section.
- Trinity College Dublin, Map Library: Historical and Ordnance Survey Maps.

17.2 Assessment Methodology

The study area for this assessment is defined as 500m from the boundary of the proposed development area. Research for this chapter comprised a paper survey of all available archaeological, historical and cartographic sources. A field inspection was also carried out.

17.2.1 Paper Survey

- Record of Monuments and Places for County Tipperary;
- Sites and Monuments Record for County Tipperary;
- National Monuments in State Care Database;
- Preservation Orders List;
- Topographical files of the National Museum of Ireland;
- Cartographic and written sources relating to the study area;
- Tipperary County Development Plan (2022–2028);
- Cherrywood Development Plan (2014);
- Aerial photographs and satellite imagery;
- Excavations Bulletin (1970–2024);
- National Inventory of Architectural Heritage.

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as ‘un-located sites’ and cannot be afforded legal protection due to lack of locational information. As a result, these are omitted from the Record of Monuments and Places. SMR sites are also listed on a website maintained by the Department of Housing, Local Government and Heritage (DoHLGH) – www.archaeology.ie.

National Monuments in State Care Database is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument. The Minister for the DoHLGH may acquire national monuments by agreement or by compulsory order. The state or 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.

Preservation Orders List contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. 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.

The topographical files of the National Museum of Ireland are the national 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 on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the development area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

Documentary sources were consulted to gain background information on the archaeological, architectural and cultural heritage landscape of the proposed scheme.

Development Plans contain a catalogue of all the Protected Structures and archaeological sites within the county. The Tipperary County Development Plan (2022–2028) was consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed development areas.

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 likely potential for archaeology. A number of sources were consulted including aerial photographs held by the Ordnance Survey and Google Earth.

Excavations Bulletin is a summary publication that has been produced every year since 1970. The hard copy publication summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. Since 2010 all summary information up until 2024 is available online (www.excavations.ie).

The National Inventory of Architectural Heritage is a state initiative established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999 tasked with making a nationwide record of significant local, regional, national and international structures, which in turn provides county councils with a guide as to what structures to list within the Record of Protected Structures. The NIAH have also carried out a nationwide desk-based survey of historic gardens, including demesnes that surround large houses.

17.2.2 Field Inspection

A field inspection was carried out for each of the plots. Field inspection is necessary to determine the extent and nature of archaeological and historical remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological and architectural field inspections entailed –

- Walking the proposed development and its immediate environs.
- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological, architectural or historical significance.
- Verifying the extent and condition of any recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

17.2.3 Definition of the Significance of Effect

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.

Impacts as defined by the EPA 2022 Guidelines (pg. 50).

17.3 Baseline Environment

17.3.1 Archaeological and Historical Background

The proposed development area is located within the townland of Killoran, County Tipperary. There are no recorded archaeological sites within the proposed development area; however, it is located in a landscape rich in archaeological heritage. There are 20 recorded monuments within the 500m study area, with the majority prehistoric in date (Figure 17.1). A large number of these monuments have previously been excavated as part of the previous mining activities within the area (see section 17.3.2 for more detail) and therefore the records are 'record only'. There are no recorded sites of architectural heritage significance within the 500m study area. In terms of cultural heritage sites, no specific sites have been identified within the study area.

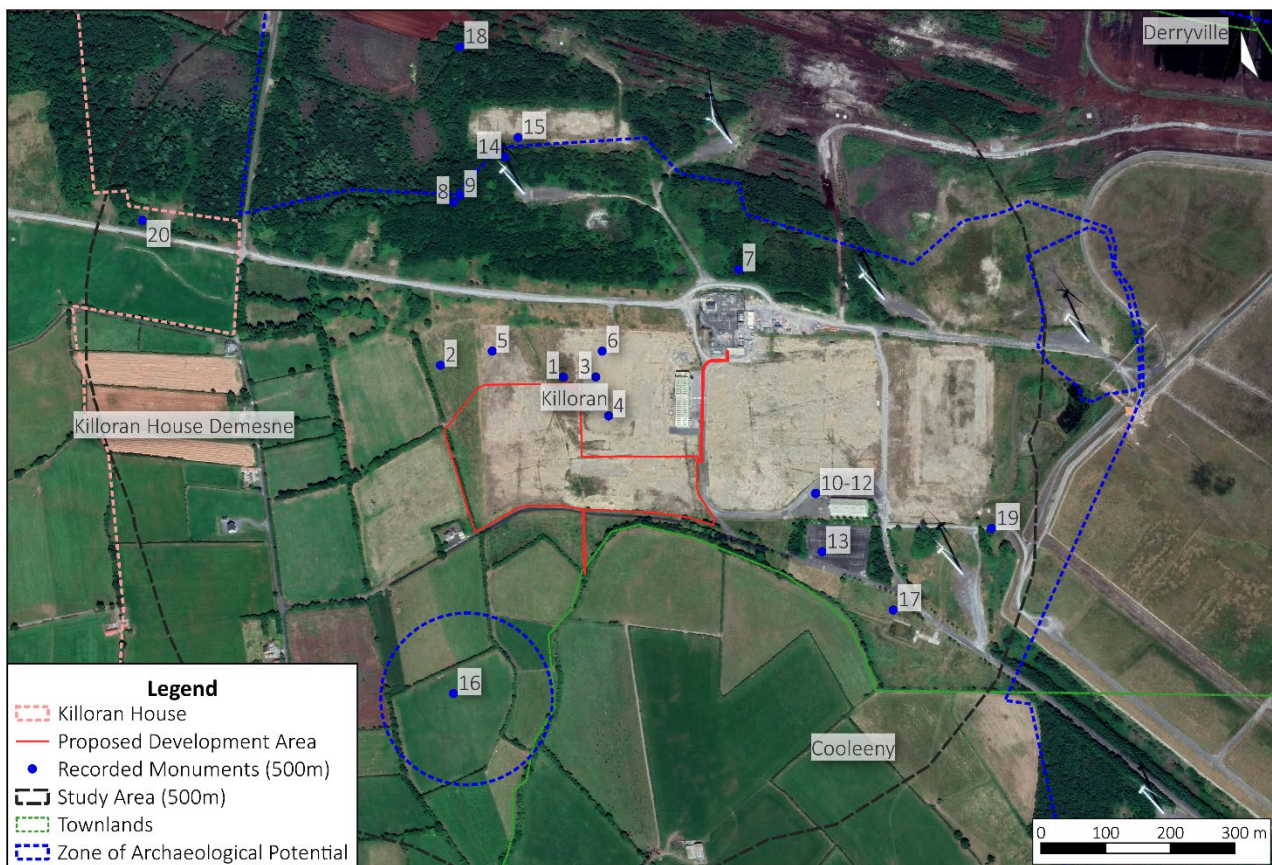


Figure 17.1: Proposed development area, showing nearby archaeology

17.3.1.1 Prehistoric Period

Substantial evidence for activity during the prehistoric period was identified within and in proximity to the proposed development area by the Lisheen Mine Archaeological Project. Site types discovered included, prehistoric complexes, *fulachtaí fia*, two cremation cemeteries, isolated cremations, burnt pits, occupation sites

and a variety of timber trackways and platforms. The sites were located across an undulating terrain of low eskers, peat-filled hollows and flat reclaimed marshland and adjacent to the raised bog of Derryville.

Neolithic Period (c. 4000–2500 BC)

During this period communities became less mobile, and the economy became based on the rearing of stock and cereal cultivation. The transition to the Neolithic was marked by major social change. Communities expanded and moved further inland to more permanent settlements. This afforded the further development of agriculture which demanded an altering of the physical landscape. Forests were rapidly cleared, and field boundaries were constructed. Pottery was also being produced, possibly for the first time.

Scant evidence for Neolithic activity was identified during the Lisheen Mine Archaeological Project, either within the bog or the surrounding landscape. It appears that the area remained uninhabited until the early Bronze Age (Cross May et al. 2005). One exception was a substantial Neolithic and early Bronze Age causeway or wooden trackway (Killoran 18), which was excavated c. 672m southeast of the current development area. The feature created a bridge between two dryland areas (Coughlan and Stevens 2005; Licence No. 96E203 and 96E298).

Bronze Age Period (c. 2500–6000 BC)

This period is marked by the use of metal for the first time. As with the transition from Mesolithic to Neolithic, the transition into the early Bronze Age was accompanied by changes in society. Communal megalithic tombs were replaced in favour of individual, subterranean cist or pit burials that were either in isolation or in small cemeteries. These burials contained inhumed or cremated remains and were often, but not always, accompanied by a pottery vessel.

A flat cemetery (TN036-050012) was recorded c. 305m southeast of the proposed development area, comprising a large cluster of 70 small burial pits of prehistoric date. Cremated human remains were recovered from many of the pits; however, 29 did not yield surviving human remains but did contain charcoal-rich deposits. One of the pits contained possible Bronze Age pottery fragments. Further funerary activity was noted in the form of a number of pit burials located within the study area; TN036-050006 (72m north), TN036-050005 (43m north) and TN036-050003 (35m north). These burials appeared to contain token deposits of cremated human bone. One of the pit burials (TN036-050005) was dated to 1145–900 BC and was associated with a post-hole, which may have marked the burial above ground. Another (TN036-050003) contained evidence for an upturned pottery vessel. This form of burial is typical of Bronze Age activity. Osteoarchaeological analysis of the cremated bone deposits indicated that each deposit of bone represented a single individual, and of the identifiable bone, ten adults and four juveniles were represented.

A Bronze Age settlement site, comprising five structures and associated features, was excavated at Killoran 8 in 1997 on the dryland margin, c. 649m east of the proposed development area (Ó' Néill 2005a; Licence No. 97E439). One of the structures was dated to the early-mid Bronze Age period (1860–1845 BC or 1775–1430 BC). An area measuring c. 560m² was excavated around the structures (*ibid.*). Artefacts found at Killoran 8 included coarse pottery, a saddle quern fragment, burnt daub, rubbing stones, hammer stones, a possible whetstone, struck chert and flint. Several phases of activity were identified including at least two periods of abandonment and two phases of reconstruction (*ibid.*). Further undated prehistoric occupation activity was excavated at Killoran 2, c. 200m to the south.

A number of *fulachtaí fia* or burnt mound sites were recorded and excavated in the study area of the proposed development, including TN036-050004 (10m north), TN036-050032 (141m north), TN036-050020 (249m north), TN036-050001 (430m west), TN036-050031 (155m east), TN036-050029 (155m east), TN036-050024 (378m north), TN036-050028 (155m east), TN036-050023 (150m north), TN036-050022 (174m east-southeast) and TN036-050002 (416m east). Over 7,000 burnt mounds or *fulacht fia* sites have been recorded in the country and c. 1,500 examples excavated, making them the most common prehistoric monument in Ireland (Waddell 2022).

Dating evidence from a growing number of burnt mounds, suggests activities resulting in burnt mounds were being carried over a span of 3,500 years in Ireland, the Bronze Age has long been believed to have seen the peak of this activity (Hawkes 2018). They are typically located in areas where there is a readily available water source, often in proximity to a river or stream or in places with a high-water table. In the field burnt mounds may be identified as charcoal-rich mounds or spreads of heat shattered stones, however, in many cases, the sites have been disturbed by later agricultural activity and are no longer visible on the field surface. Nevertheless, even disturbed spreads of burnt mound material often preserve the underlying associated features, such as troughs, pits and gullies, intact.

A total of 34 trackways and two causeways dating from the early Bronze Age to Iron Age were excavated in Derryville Bog as part of the Lisheen Mine Archaeological Project. Of these 34 sites, 29 toghers (including possible toghers), were identified to the northeast of the proposed development area (TN036-050146–174). In 15 examples brushwood was the only component identified. The remaining examples were constructed from a mixture of brushwood and roundwood. Three toghers had evidence of pegs or stakes. Wood species were identified in 13 toghers, these included alder, ash, birch, elm, hazel, holly and mountain ash, with ash and hazel being predominant (www.archaeology.ie).

Iron Age Period (c. 500BC–AD500)

A house (TN036-050018) was recorded c. 23m east of the proposed development area, during topsoil stripping associated with the Lisheen Mine Project. It comprised a circular arrangement of postholes with four postholes forming a doorway to the southeast. A posthole located centrally within the interior suggested that a central supporting post was present. While the house is classified in the SMR as of indeterminate date, charcoal from one of the postholes of the doorway structure returned a radiocarbon date of 180BC- AD 425, indicating that the structure dated to the Iron Age.

A 45m stretch of trackway, recorded as Killoran 75, was excavated c. 720m east of the proposed development area (Stevens and Cross May 2005). Comprising of roundwood and brushwood hurdles and pegs, the trackway was dated from the 4th century BC to the 2nd century AD (GrN-21947 368–190BC, Beta-102766 380–40BC, Beta-102763 385–50BC, Beta-102765 185BC–AD130). An earlier late Bronze Age/ Iron Age trackway, recorded as Killoran 234 (TN036-050064), was located beneath Killoran 75 (Cross May 2005, Licence No. 97E160).

17.3.1.2 Early Medieval Period (AD 500–1100)

The early medieval period is depicted in the surviving sources as an almost entirely rural based society. Territorial divisions were based on the *túath*, or petty kingdom, with Byrne (1973) estimating that there may have been at least 150 kings in Ireland at any given time. This period, with a new religious culture and evolving technologies, saw significant woodland clearance and the expansion of grassland. A new type of plough and the horizontal mill were two innovations that improved agriculture and allowed for the population to increase. Consequently, from c. AD 500 onwards, the landscape became well settled, as evidenced by the profuse distribution of ringforts, a dispersed distribution of enclosed settlements, normally associated with various grades of well-to-do farming and aristocratic classes in early medieval Ireland (Stout and Stout 1997).

A large enclosed monastic settlement was recorded at Killoran 31 (TN036-020), c. 251m south-southwest of the proposed development area, dating from the 5th–7th centuries AD (Stevens 2005, Licence No. 98E269). The interior was excavated in 1998. A number of features possibly associated with iron-working were noted, with evidence of metallurgical waste and a furnace bowl fragment. The site was interpreted as a monastic enclosure associated with St. Odran (Killoran - *Cill Ódhráin*) founded before AD563 or AD548 (*ibid.*). This interpretation is challenged by the early sources, which suggest that St. Odran founded his monastery at Latteragh, County Tipperary (TN028-025002) and became the abbot there (Gwynn and Hadcock 1970).

Evidence for drainage in the form of land reclamation of peatland areas in the early medieval period (5th–12th century AD) was excavated at Killoran 3 (RMP TN036-050002), c. 416m east of the proposed development area (Ó' Néill and Stevens 2005; Licence No. 97E036). One of the houses recorded at Killoran 8 (Ó' Néill, 2005a; Licence No. 97E439) may have been contemporary with this land reclamation (AD685–985). An early medieval date of AD1024–1162 was obtained from one togher, c. 821m northeast of the proposed development area (Killoran 98, TN036-050164). This site was identified as 13LIS-008 and was excavated in 2013 (Coughlan and O' Carroll 2013). In addition, two stake rows (13LIS-009, Licence No. 13E182 and 13LIS-011, Licence No. 13E184) and a probable hut structure (13LIS-047, Licence No. 13E336), excavated in 2013, have been dated to the 7th–10th centuries AD (*ibid.*).

A long stake row recorded as Killoran 54 (Murray 2005; Licence No. 96E202) was identified to the southeast of the proposed development area. The row of parallel stakes ran along a natural ridge, which appeared to be parallel the current county boundary (*ibid.*). This feature, dated to the 7th–9th centuries, was severely truncated and as such the original function was not identified (AD 668–884). It was suggested that by this time the Derryville Bog was a local resource, a regional obstacle and a provincial boundary marker (Cross May et al. 2005).

17.3.1.3 Medieval Period (AD 1100–1600)

The piecemeal conquest by the Anglo-Normans of Ireland, which commenced in AD 1169, had a fundamental impact on the Irish landscape. Their presence was strongest in the East of the Country, and it is mainly in this region that land was carved up and granted to the newly arrived lords who participated. The main success of the Anglo-Norman occupation was the welding of scattered territories into a cohesive unit through the introduction

of the English form of shire government. The rural landscape became a network of manorial centres; these units would generally contain a castle (motte and bailey), a manorial house and a number of dwellings, with extensive surrounding acreage. During the 14th to 16th centuries, tower houses were the typical residence of the Irish gentry and are a common feature in the Irish landscape.

While the arrival of the Anglo-Normans and associated social upheaval led to the significant changes in land ownership and settlement. The proposed development area was in a rural marginal landscape and was largely unaffected by the Anglo-Norman colonisation. There are no recorded sites of confirmed medieval date within the study area of the proposed development.

17.3.1.4 Post-Medieval Period (AD 1600–1800)

The built heritage within this area is typified by the demesne landscapes of large country manors. The 18th century, a relatively peaceful period, saw the large-scale development of demesnes and country houses in Ireland. The houses generally form part of the larger demesne landscape. Demesnes were dominant features of the rural landscape throughout the 18th and 19th centuries. Killoran House and demesne are located c. 258m west of the proposed development area. The house was built in c. 1850 and forms part of a notable group with the related outbuildings and folly tower.

Vernacular architecture is defined in James Steven Curl's Encyclopaedia of Architectural Terms as 'a term used to describe the local regional traditional building forms and types using indigenous materials, and without grand architectural pretensions', i.e. the homes and workplaces of the ordinary people built by local people using local materials. This is in contrast to formal architecture, such as the grand estate houses of the gentry, churches and public buildings, which were often designed by architects or engineers. The majority of vernacular buildings are domestic dwellings. Examples of other structures that may fall into this category include shops, outbuildings, mills, lime kilns, farmsteads, forges, gates and gate piers. A number of small farmyards are located within the immediate vicinity of the proposed development area, as shown on the historic OS mapping.

A house of indeterminate date (TN036-050177) is recorded c. 107m northeast of the proposed development area. The SMR file suggests that it may date to the 17th century, due to the presence of internal corbels supporting the attic floor. The house had seen a number of phases of alteration and this dating is tentative.

17.3.2 Previous Archaeological Investigations

Between 1997–1998 Margaret Gowen and Co. monitored the construction of the existing mining facility at Lisheen (Gowan and O'Neill 2005). The development covered a 250ha area over four townlands: Barnalisheen, Cooleeny, Derryfadda and Killoran, including the proposed development area. Numerous archaeological sites were uncovered during monitoring and site types discovered included prehistoric complexes, *fulachtaí fia*, two cremation cemeteries, isolated cremations, burnt pits, a substantial Bronze Age settlement, Iron Age occupation

sites and a variety of timber trackways and platforms. The sites were located across an undulating terrain of low eskers, peat-filled hollows and flat reclaimed marshland and adjacent to the raised bog of Derryville.

A number of *fulachtaí fia* were uncovered within the study area of the proposed development. These included TN036-050004 (10m north), TN036-050032 (141m north), TN036-050020 (249m north), TN036-050001 (430m west), TN036-050031 (155m east), TN036-050029 (155m east), TN036-050024 (378m north), TN036-050028 (155m east), TN036-050023 (150m north), TN036-050022 (174m east-southeast) and TN036-050002 (416m east). A burnt mound (TN036-050027) was also recorded c. 218m north.

A flat cemetery (TN036-050012) was recorded c. 305m southeast of the proposed development area, comprising a large cluster of 70 small burial pits of prehistoric date. Further funerary activity was noted in the form of a number of pit burials located within the study area; TN036-050006 (72m north), TN036-050005 (43m north) and TN036-050003 (35m north). One of the pit burials (TN036-050005) was dated to 1145-900 BC and was associated with a post-hole, which may have marked the burial above ground. Another (TN036-050003) contained evidence for an upturned pottery vessel.

A house (TN036-050018) was recorded c. 23m east of the proposed development area. It was identified during topsoil stripping as a circular arrangement of postholes with four postholes forming a doorway to the southeast. A posthole located centrally within the interior suggested that a central supporting post was present. While the house is classified in the SMR as of indeterminate date, charcoal from one of the postholes of the doorway structure returned a radiocarbon date of 180BC- AD 425, suggesting the structure dated to the Iron Age.

The sites that have been excavated, which are adjacent to the proposed development area are included in the SMR as 'record only'. The whole development area, with the exception of a small section of the southwest corner of the site, has been stripped of topsoil, which was subject to archaeological monitoring.

17.3.3 Cartographic Analysis

William Petty, Down Survey Map of the Barony of Iliogurty, c. 1655

The proposed development area is shown as marginal land annotated as 'Killowrane' to the north of Moyne in this early mapping. 'Moynard' and 'Moyntample' are annotated to the south-west of 'Killowrane' and a tower / castle is illustrated here. Woodland is annotated to the east of the marginal bogland in 'Killowrane'. It is possible that Killoran House (TN036-052, NIAH 22403605) was built on the site of this residence.

First Edition Ordnance Survey Map, 1843, scale 1:10,560 (Figure 17.2)

By the time of this mapping the proposed development area occupies agricultural land with wetland bog further to the north. Three groups of vernacular structures, representing farmyards, are shown in the vicinity of the proposed development area, one at the northern boundary, one at the southern boundary and one to the immediate northwest. A small circular feature is depicted within the proposed development area, which is not labelled. It may represent a small well or spring. The townland boundary between Killoran and Cooleeny is shown to the south of the proposed development area. In the wider environs, a number of lime kilns are marked.

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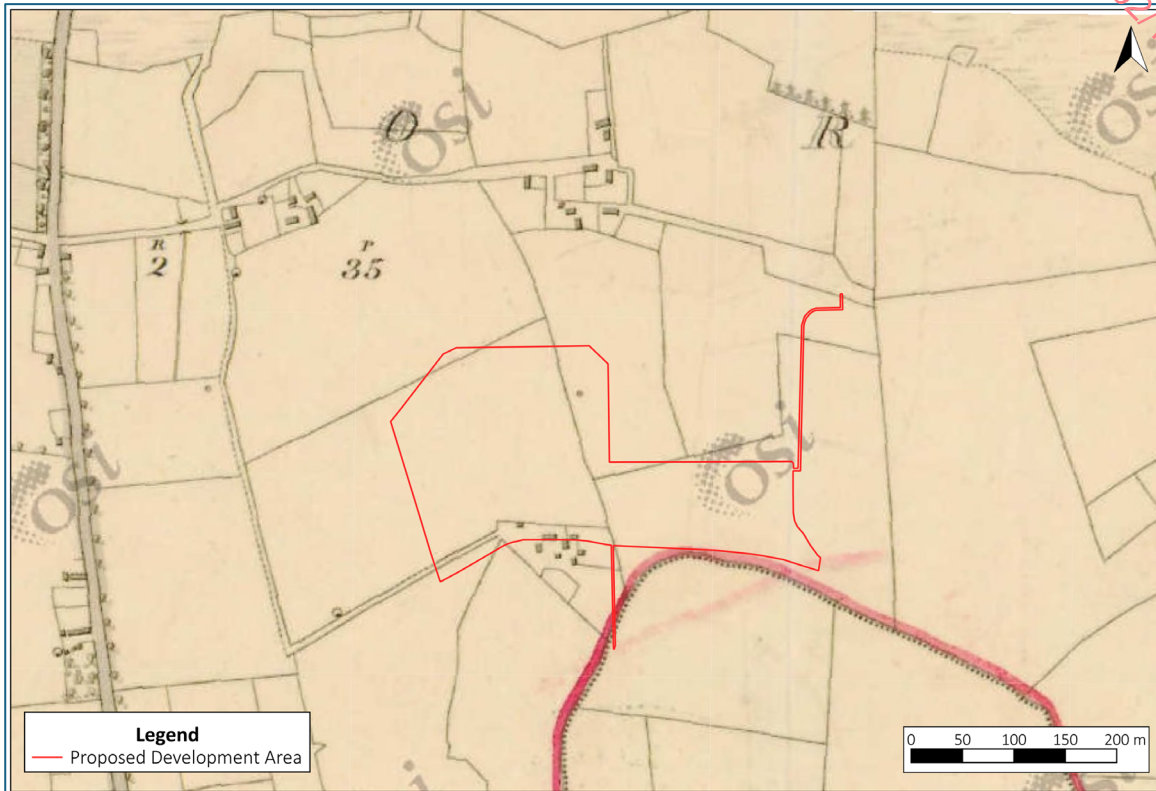


Figure 17.2: Extract from the first edition OS map of 1843 showing the proposed development area

Ordnance Survey Map, 1901-2, scale 1:10,560

There is no significant change to the proposed development area and its surroundings by the time of this mapping.

Ordnance Survey Map, 1903, scale 1:2,500 (Figure 17.3)

By the time of this map, some of the field boundaries within the proposed development area have been altered. The farmyard to the north of the proposed development area is no longer extant, nor is the associated access route. The circular feature shown within the proposed development area shown on the previous mapping is no longer present. The farm to the immediate south has been enlarged slightly.

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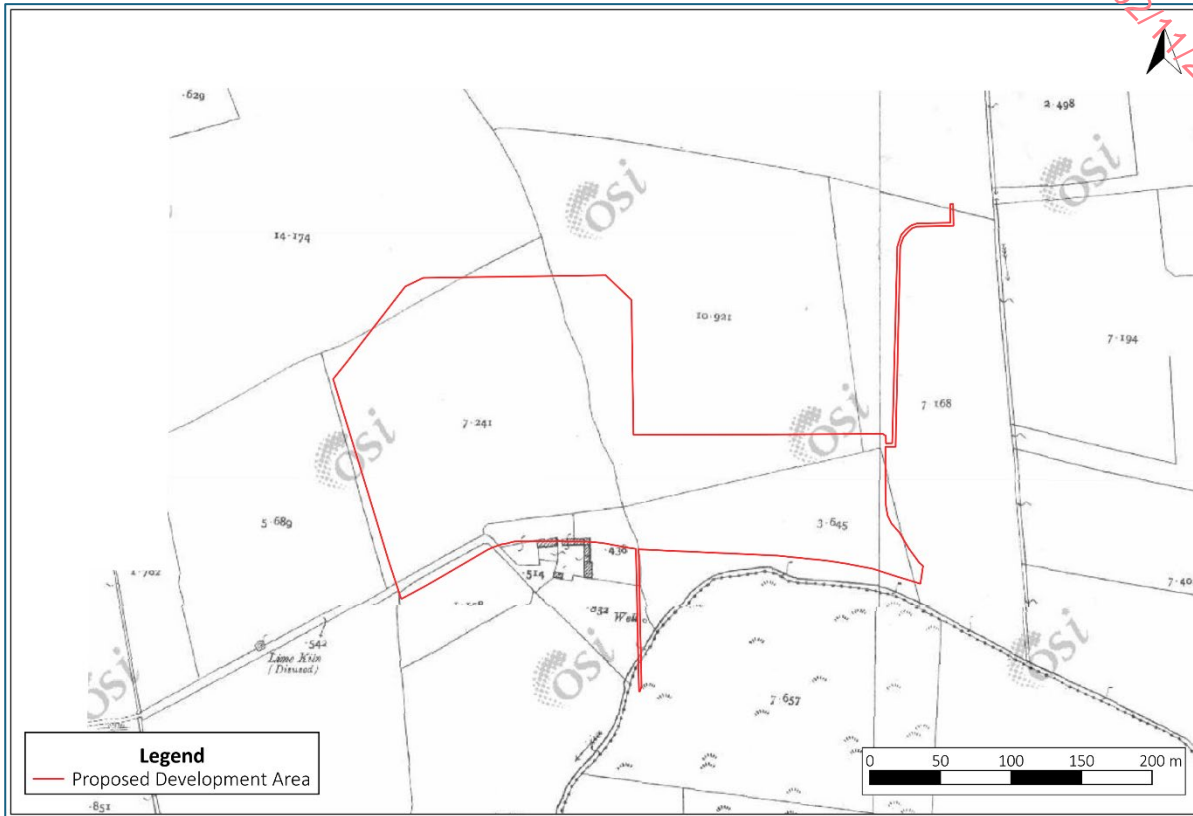


Figure 17.3: Extract from the historic OS map of 1903 showing the proposed development area

Ordnance Survey Map, 1938, scale 1:10,560

There is no significant change to the proposed development area by the time of this mapping.

17.3.4 County Development Plan

17.3.4.1 Archaeological Heritage

The Tipperary County Development Plan (2022–2028) details all of the Recorded Monuments within the vicinity of the study area as well as policies and objectives relating to heritage and archaeology (Appendix 17.2).

There are 20 archaeological sites within 500m of the proposed development area, 19 of these monuments were formerly grouped as an archaeological complex (TN036-050). All of the monuments exist as ‘record only’ representing the site of excavated archaeological sites, with the exception of TN036-020, which has been partially excavated. The record for this grouping has since been made redundant, as the classification is no longer in use by the National Monuments Service (Figure 17.1, Appendix 17.1, Table 17.1).

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RMP No.	MAP ID (Figure 17.1)	Location	Classification	Distance
TN036-050004	1	Killoran (Moyne Par.)	Fulacht fia	10m north
TN036-050018	2	Killoran (Moyne Par.)	House - indeterminate date	23m east
TN036-050003	3	Killoran (Moyne Par.)	Pit-burial	35m north
TN036-050005	4	Killoran (Moyne Par.)	Pit-burial	43m north
TN036-050017	5	Killoran (Moyne Par.)	Burnt pit	52m north
TN036-050006	6	Killoran (Moyne Par.)	Pit-burial	72m north
TN036-050177	7	Killoran (Moyne Par.)	House - indeterminate date	107m northeast
TN036-050032	8	Killoran (Moyne Par.)	Fulacht fia	141m north
TN036-050023	9	Killoran (Moyne Par.)	Fulacht fia	150m north
TN036-050028	10	Killoran (Moyne Par.)	Fulacht fia	155m east
TN036-050029	11	Killoran (Moyne Par.)	Fulacht fia	155m east
TN036-050031	12	Killowney Big	Fulacht fia	155m east
TN036-050022	13	Killoran (Moyne Par.)	Fulacht fia	174m east-southeast
TN036-050027	14	Killoran (Moyne Par.)	Burnt mound	218m north
TN036-050020	15	Killoran (Moyne Par.)	Fulacht fia	249m north
TN036-020	16	Killoran (Moyne Par.)	Enclosure	251m south-southwest
TN036-050012	17	Killoran (Moyne Par.)	Flat cemetery	305m southeast
TN036-050024	18	Killoran (Moyne Par.)	Fulacht fia	378m north
TN036-050002	19	Killoran (Moyne Par.)	Burnt pit	416m east
TN036-050001	20	Killoran (Moyne Par.)	Fulacht fia	430m west

Table 17.1: Recorded archaeological sites within the study area

17.3.4.2 Architectural Heritage

The Tipperary County Development Plan (2022–2028) details the Protected Structures and Architectural Conservation Areas within the vicinity of the proposed development area. Objectives relating to the architectural heritage resource are included within Appendix 17.3.

There are no Protected Structures within the study area of the proposed development and the proposed development area is not located within an Architectural Conservation Area.

17.3.5 National Inventory of Architectural Heritage

17.3.5.1 Building Survey

The National Inventory of Architectural Heritage survey of Tipperary North was carried out in 2004. A review of the architectural survey was undertaken as part of this assessment and included buildings within 500m of the study

area. There are no buildings listed in the NIAH Building Survey within the study area of the proposed development area.

17.3.5.2 Garden Survey

There is one former demesne landscape located within the 500m study area of the proposed development area, Killoran House demesne (NIAH Garden ID 912), located c. 258m west. While the principal structure survives and is a protected structure, it is located outside the 500m study area of the proposed development area. The demesne is first shown on the first edition OS map of 1843 but has now largely been subsumed back into the agricultural landscape.

17.3.6 Aerial Photographic Analysis

Aerial photography and satellite imagery held by OSI (1995–2018), Google Earth (2009–2022) and Bing Maps were analysed as part of this assessment. The earliest aerial imagery of the proposed development area dates to 1995 (OSI) and shows the proposed development area as agricultural land. By the time of the 2000 (OSI) aerial photographs, the Lisheen Mine complex, which included the proposed development area, is under construction. In addition, the roadway to the north has been rerouted to allow access to the industrial complex. In 2005 (OSI), the construction work has progressed; however, a small portion of land to the west of the main structures appears to be in use for storage of materials. The satellite imagery dating to 2012 (Google Earth) shows that the complex has been further developed. By 2020 (Google Earth) the majority of the industrial structures have been demolished and the proposed development area comprises a brownfield site. The proposed development area has been extensively disturbed with the exception of a small section of the southwest corner of the site.

17.3.7 Topographical Files of the National Museum of Ireland

Information on artefact finds from the study area in County Dublin has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds can be important in establishing prehistoric and historic activity in the study area; however, no stray finds have been recorded from the study area to date.

17.3.8 Field Inspection

A field inspection of the proposed development area was carried out as part of this assessment and confirmed that the majority of the proposed development area is heavily disturbed and reduced to subsoil (Plates 17.1 and 17.2). The exception is a small area of undisturbed greenfield at the western extent of the proposed development area (Plate 17.3). The redline boundary also extends along an established roadway, which is surfaced in tarmacadam (Plate 17.4). Nothing of archaeological significance was noted during the field inspection; however, the western greenfield area retains some archaeological potential.

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Plate 17.1: Proposed development area, facing southwest



Plate 17.2: Proposed development area, facing northeast

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Plate 17.3: Western (undisturbed) greenfield section of the proposed development area



Plate 17.4: Established roadway within the proposed development area, facing east

17.3.9 Cultural Heritage Background

17.3.9.1 Toponymy of Townlands

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830's and 1840's, when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main reference used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870). A description and possible explanation of each townland name in the environs of the proposed development area are provided in the below Table 17.2.

Townland	Origin	Derivation	Possible Meaning
Killoran	Irish	<i>Cill Odhráin</i>	Oran's Church
Cooleeny	Irish	<i>Na Cúilíní</i>	Little Corners
Baunmore	Irish	<i>An Bábhún Mór</i>	The big white/grassy ground
Derryfadda	Irish	<i>Doire Fada</i>	The long oakwood

Table 17.2: Placename analysis

17.3.9.2 Townland boundaries

The townland is an Irish land unit of considerable longevity as many of the units are likely to represent much earlier land divisions. However, the term townland was not used to denote a unit of land until the Civil Survey of 1654. It bears no relation to the modern word 'town' but like the Irish word *baile* refers to a place. It is possible that the word is derived from the Old English *tun land* and meant 'the land forming an estate or manor' (Culleton 1999, 174).

Gaelic land ownership required a clear definition of the territories held by each sept and a need for strong, permanent fences around their territories. It is possible that boundaries following ridge tops, streams or bog are more likely to be older in date than those composed of straight lines (ibid. 179).

The vast majority of townlands are referred to in the 17th century, when land documentation records begin. Many of the townlands are mapped within the Down Survey of the 1650s, so called as all measurements were carefully 'laid downe' on paper at a scale of forty perches to one inch. Therefore, most are in the context of pre-17th century landscape organisation (McErlean 1983, 315).

In the 19th century, some demesnes, deer parks or large farms were given townland status during the Ordnance Survey and some imprecise townland boundaries in areas such as bogs or lakes, were given more precise definition (ibid.). Larger tracks of land were divided into a number of townlands, and named Upper, Middle or Lower, as well as Beg and More (small and large) and north, east, south and west (Culleton 1999, 179). By the time the first Ordnance Survey had been completed a total of 62,000 townlands were recorded in Ireland.

Although not usually recorded as archaeological monuments in their own right, townland boundaries are important as cultural heritage features as they have indicated the extents of the smallest land division unit in the country—the townland—which have been mapped since the 19th century. It remains unclear how old these land units actually are, though it has been convincingly argued that they date to at least the medieval period and may be significantly older than this (McErlean 1983; MacCotter 2008).

The proposed development area is located entirely within Killoran townland, in the Parish of Moyne and the Barony of Eliogarty, in County Tipperary. There are no townland boundaries traversing the proposed development area.

17.3.9.3 Cultural Heritage Sites

No specific cultural heritage sites have been identified within the study area of the proposed development as part of this assessment.

17.3.10 Summary

The proposed development area does not contain any recorded archaeological or architectural heritage sites. The analysis of the baseline information has shown that the site has been stripped of topsoil as part of the Lisheen Mine Archaeological Project. Multiple archaeological sites in the vicinity of the development area (20 in total) were then subject to archaeological excavation, or 'preservation by record'. The sites, for the most part, provided evidence for extensive prehistoric settlement activity in the general landscape.

The assessment has shown that a large majority of the development area previously contained industrial structures, which have since been demolished. The site is currently a 'brownfield' site, with the exception of a small portion of the southwest corner, which covers c. 0.5ha.

17.4 Characteristics of the Proposed Development

Nua Bioenergy Limited intends to apply for permission to construct an anaerobic digestion facility to produce renewable biomethane and bio-based fertilizer, with an annual intake of up to 98,000 tonnes of feedstock per annum at a site of c. 5.62 hectares at lands located at the former Lisheen Mine Site, Killoran, Moyne, Thurles, Co. Tipperary.

The application site is principally bounded by: lands associated with the former Lisheen Mine to the north south and east; and by agricultural lands to the to the west and is described in full in Chapter

17.5 Potential Impact of the Proposed Development

17.5.1 Do-Nothing Impact

If the proposed development were not to proceed, there would be no negative impact on the archaeological, architectural or cultural heritage resource.

17.5.2 Construction Phase

Archaeology

The proposed development area is located within lands previously subject to archaeological monitoring as part of the construction of the Lisheen Mines complex. Any archaeological features discovered during monitoring were fully excavated in the late 1990s (preserved by record). The only exception is c. 0.5ha of greenfield in the southwest portion of the site. Here there is potential for direct negative (permanent) effects on previously unrecorded archaeological remains, which may be present. Effects may range from moderate to very significant, dependant on the nature, extent and significance of any remains that may be identified.

Architecture

No potential impacts have been identified that relate to the architectural resource as a result of the construction of the development.

Cultural Heritage

No potential impacts have been identified that relate to the cultural heritage resource as a result of the construction of the development.

17.5.3 Operation Phase

No negative impacts during operation are predicted upon the archaeological, architectural and cultural heritage resource.

17.6 Mitigation Measure

Archaeology

All topsoil stripping in the south-western corner of the development area will be subject to archaeological monitoring. If any features of archaeological potential are identified, further mitigation will be required such as preservation in-situ or by record. Any further mitigation will require agreement from the National Monuments Service of the DoHLGH.

Architecture

No mitigation is required.

Cultural Heritage

No mitigation is required.

17.7 Residual Impacts

Following the completion of the mitigation measures detailed above, there will be no significant effects upon the archaeological, architectural or cultural heritage resource.

17.8 Indirect/Secondary Impacts

No indirect or secondary impacts have been identified.

17.9 Monitoring

The mitigation detailed above will also function as a monitoring system that will continuously assess the effectiveness of the mitigation.

17.10 Interactions

No interactions have been identified during the course of this assessment.

17.11 Cumulative Impacts

The cumulative impact assessment methodology is set out in full in Chapter 21 along with the list of proposed developments considered in the cumulative impacts assessment. Within regards to projects proposed within 500m of the proposed development, potential cumulative impacts will not occur in relation to the archaeological record as these developments all occupy areas that were subject to full archaeological excavation in the late 1990s. As such none of them will impact archaeology and therefore cumulative impacts cannot occur. No cumulative impacts are predicted in relation to the operation of the proposed development and those developments within 500m, as no operational impacts are predicted as a result of the operation of the proposed development (subject to this EIAR).

Proposed developments outside of the 500m study area for the assessment of the archaeological, architectural and cultural heritage resource, have been screened out of the cumulative impact assessment.

17.11.1 Construction Phase

No cumulative impacts are predicted during construction upon the archaeological, architectural and cultural heritage resource. This is due to the fact that if any archaeological remains are found to be present within the small portion of greenfield within the development area, these will be fully preserved by record or in-situ.

17.11.2 Operation Phase

No cumulative impacts during operation are predicted upon the archaeological, architectural and cultural heritage resource, as no operational impacts have been identified as part of the proposed development.

17.12 Difficulties Encountered

No difficulties were encountered during the compilation of this chapter.

17.13 References

- Bennett, I. (ed.) 1987–2010. Excavations: Summary Accounts of Archaeological Excavations in Ireland. Bray. Wordwell.
- Byrne, F. J. 1973. Irish Kings and High Kings. Dublin. Four Courts Press.
- Chartered Institute for Archaeologists 2020a. Standards & Guidance for Field Evaluation.
- Chartered Institute for Archaeologists 2020b. Standards & Guidance for Archaeological Excavation.
- Chartered Institute for Archaeologists 2020c. Standards & Guidance for an Archaeological Watching Brief (Monitoring).
- Coughlan, T. and O' Carroll, E. 2013. Archaeological Assessment at Killoran, Lisheen Mine, County Tipperary (Licence No. 13E059). Report prepared by IAC Ltd for Golder Associates Ireland Limited.
- Coughlan, T. and Stevens, P. 2005. Killoran 18. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 247–254. Wordwell, Dublin.
- Cross May, S. 2005. Killoran 315. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 281–2. Wordwell, Dublin.
- Cross May, S., Murray, C., O' Néill, J. and Stevens, P. 2005. Archaeological Conclusions. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 363–365. Wordwell, Dublin.
- Curl, J.S. 1997. Encyclopaedia of Architectural Terms. Donhead Publishing.
- Department of Arts, Heritage, Gaeltacht and the Islands. 1999a. Framework and Principles for the Protection of the Archaeological Heritage. Dublin. Government Publications Office.
- Department of Arts, Heritage, Gaeltacht and the Islands. 1999b. Policy and Guidelines on Archaeological Excavation. Dublin. Government Publications Office.

- Environmental Protection Agency. 2017. Draft Advice Notes on Current Practice (in the preparation of Environmental Impact Statements). Dublin. Government Publications Office.
- Environmental Protection Agency. 2022. Guidelines on the Information to be Contained in Environmental Impact Statements. Dublin. Government Publications Office.
- Gowen, M., O' Néill, J. and Phillips, M. 2005. The Lisheen Mine Archaeological Project 1996–8. Wordwell, Dublin.
- Gwynn, A. and Hadcock, R. N. 1970. Medieval Religious Houses: Ireland. London: Longman.
- Hawkes, A. 2018. The Archaeology of Prehistoric Burnt Mounds in Ireland. Oxford. Archaeopress.
- MacCotter, P. 2008. Medieval Ireland: Territorial, Political and Economic Divisions. Dublin. Four Courts Press.
- McErlean, T. 1983. The Irish Townland System of Landscape Organisation. In T. Reeves-Smith and F. Hammond (eds), Landscape Archaeology in Ireland, 315-339. U.K. British Archaeological Reports.
- Murphy, M. and Potterton, M. 2010. The Dublin region in the Middle Ages: settlement, land-use and economy. Dublin. Four Courts Press.
- Murray, C. 2005. Killoran 54. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 254–5. Wordwell, Dublin.
- National Monuments Service, Department of Housing, Local Government and Heritage. Sites and Monuments Record, County Tipperary.
- National Museum of Ireland. Topographical Files, County Tipperary.
- O' Neill, J. 2005. Killoran 8. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 288–292. Wordwell, Dublin.
- O' Néill, J. and Stevens, P. 2005. Killoran 3. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 285–6. Wordwell, Dublin.
- Stevens, P. 2005. Barnalisheen 1, 2 and 3. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 283. Wordwell, Dublin.
- Stevens, P. and Cross May, S. 2005. Killoran 75. In M. Gowen, J. O' Néill and M. Phillips (eds), The Lisheen Mine Archaeological Project 1996–8, 257–59. Wordwell, Dublin.
- Stout, G. and Stout, M. 1997. Early Landscapes: from Prehistory to Plantation. In F.H.A. Aalen et al. (eds), Atlas of the Irish Rural Landscape. Cork. Cork University Press.
- Tipperary County Development Plan (2022–2028).
- Waddell, J. 2022. The Prehistoric Archaeology of Ireland (New Edition). Dublin. Wordwell.

CARTOGRAPHIC SOURCES

- William Petty, Down Survey Map of the Barony of Iliogurty, c. 1655
- Ordnance Survey Maps of County Tipperary, 1843, 1901–2, 1903 and 1938.

ELECTRONIC SOURCES

- www.excavations.ie – Summary of archaeological excavation from 1970–2024.
- www.archaeology.ie – DoHLGH website listing all SMR/RMP sites.

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- www.heritagemaps.ie – The Heritage Council web-based spatial data viewer which focuses on the built, cultural and natural heritage.
- www.geohive.ie– Ordnance Survey Ireland National Townland and Historical Map Viewer (including Aerial imagery 1995–2013)
- www.googleearth.com – Satellite imagery (2009–2022).
- www.booksulster.com/library/plnm/placenamesC.php - Contains the text from Irish Local Names Explained by P.W Joyce (1870).
- www.logainm.ie – Placenames Database of Ireland, developed by Fiontar (DCU) and The Placenames Branch (DoTCAGSM).