

13. ARCHAEOLOGY AND CULTURAL HERITAGE

13.1 Introduction

This archaeological and cultural heritage chapter was prepared by Tobar Archaeological Services. It presents the results of an archaeological, architectural and cultural heritage impact assessment of the Proposed Development which comprises 9 No. wind turbines, and associated infrastructure, and a 110kV on-site substation and associated works, including underground 110kV cabling to connect to the national grid at Thornsberry 110kV substation.

The purpose of this chapter is to assess the potential direct and indirect effects of the Proposed Development on the surrounding archaeological, architectural and cultural heritage landscape. The assessment is based on both a desktop review of the available cultural heritage and archaeological data and a field inspection of the Proposed Development EIAR Site Boundary and wider landscape setting. An assessment of potential effects, including cumulative effects, is presented.

13.1.1 Proposed Development

A full description of all elements of the Proposed Development is detailed in Chapter 4 of this EIAR.

As detailed in Section 1.1.1 in Chapter 1, for the purposes of this EIAR, the various project components are described and assessed using the following references: ‘Proposed Development’, ‘the Site’, ‘Wind Farm Site’ and ‘Grid Connection’.

13.1.2 Location and Topography

The Wind Farm Site is located at Umma More and adjacent townlands, c 2.9km southwest of Ballymore, County Westmeath. It is situated 6.4km north of Moate in largely agricultural pastureland. The Wind Farm Site covers an area of approximately 444 hectares and spans the townlands of Ballynafearagh, Baskin High, Baskin Low, Lissanode, Raheen, Umma Beg or Moneynamanagh, Umma More. The Grid Connection underground electrical cabling route traverses through Ballinderry Big, Ballinderry Little, Ballinlig, Ballybrickoge, Ballynagrenia, Cloonymurikin, Curragh, Custorum, Hallsfarm, Kilbeg, Kilbeggan, Kilbeggan South, Kilcumreragh, Meadowpark, Meeldrum, Pallas, Raheen, Shureen And Ballynasuddery, Tonaphort, Umma Beg Or Moneynamanagh and Umma More, County Westmeath and Acantha, Aghancarnan, Ardan, Ballybought, Ballynasrah Or Tinnycross, Brackagh, Cappysdonnell Little, Cartron Glebe, Cloncruff, Derrynagall Or Ballydaly, Dunard, Durrow Demesne, Gormagh, Kilmurragh, Newtown, Rostalla County Offaly.

13.1.3 Statement of Authority

This chapter of the Planning and Environmental Report has been prepared by Miriam Carroll and Annette Quinn of Tobar Archaeological Services Ltd. Miriam and Annette both graduated from University College Cork in 1998 with a Masters degree in Methods and Techniques in Irish Archaeology. Both are licensed by the Department of Housing, Local Government and Heritage to carry out excavations and are members of the Institute of Archaeologists of Ireland. Annette Quinn and Miriam Carroll have been working in the field of archaeology since 1994 and have undertaken numerous projects for both the private and public sectors including excavations, site assessments (EIAR) and surveys. Miriam Carroll and Annette Quinn are directors of Tobar Archaeological Services which has been in operation for 18 years.

13.1.4 Relevant Legislation

Archaeological monuments are safeguarded through national and international policy, which is designed to secure the protection of the cultural heritage resource. This is undertaken in accordance with the provisions of the European Convention on the Protection of the Archaeological Heritage (Valletta Convention). This was ratified by Ireland in 1997.

Both the National Monuments Acts 1930 to 2004 and relevant provisions of the Cultural Institutions Act 1997 are the primary means of ensuring protection of archaeological monuments, the latter of which includes all man-made structures of whatever form or date. There are a number of provisions under the National Monuments Acts which ensure protection of the archaeological resource. These include the Register of Historic Monuments (1997 Act) which means that any interference to a monument is illegal under that Act. All registered monuments are included on the Record of Monuments and Places (RMP).

The Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments (Amendment) Act 1994 and consists of a list of known archaeological monuments and accompanying maps. The Record of Monuments and Places affords some protection to the monuments entered therein. Section 12 (3) of the 1994 Amendment Act states that any person proposing to carry out work at or in relation to a recorded monument must give notice in writing to the Minister (Environment, Heritage and Local Government) and shall not commence the work for a period of two months after having given the notice. All proposed works, therefore, within or around any archaeological monument are subject to statutory protection and legislation (National Monuments Acts 1930-2004).

The term ‘national monument’ as defined in Section 2 of the National Monuments Act 1930 means 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’*. National monuments in State care include those which are in the ownership or guardianship of the Minister for Arts, Heritage and the Gaeltacht. Section 5 of the National Monuments Act (1930) allows owners of other national monuments to appoint the Minister for the Arts, Heritage and the Gaeltacht or the relevant local authority as guardian of such monuments, subject to their consent. This means in effect that while the property of such a monument remains vested in the owner, its maintenance and upkeep are the responsibility of the State. Some monuments are also protected by Preservation Orders and are also regarded as National Monuments. National Monuments also includes (but not so as to limit, extend or otherwise influence the construction of the foregoing general definition) every monument in Saorstát Éireann to which the Ancient Monuments Protection Act, 1882, applied immediately before the passing of this Act, and the said expression shall be construed as including, in addition to the monument itself, the site of the monument and the means of access thereto and also such portion of land adjoining such site as may be required to fence, cover in, or otherwise preserve from injury the monument or to preserve the amenities thereof.

Under the Heritage Act (1995) architectural heritage is defined to include *‘all structures, buildings, traditional and designed, and groups of buildings including street-scapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest, together with their setting, attendant grounds, fixtures, fittings and contents...’*. A heritage building is also defined to include *‘any building, or part thereof, which is of significance because of its intrinsic architectural or artistic quality or its setting or because of its association with the commercial, cultural, economic, industrial, military, political, social or religious history of the place where it is situated or of the country or generally’*.

13.1.4.1 Granada Convention

The Council of Europe, in Article 2 of the 1985 Convention for the Protection of the Architectural Heritage of Europe (Granada Convention), states that *‘for the purpose of precise identification of the*

monuments, groups of structures and sites to be protected, each member State will undertake to maintain inventories of that architectural heritage’. The Granada Convention emphasises the importance of inventories in underpinning conservation policies.

The NIAH was established in 1990 to fulfil Ireland's obligations under the Granada Convention, through the establishment and maintenance of a central record, documenting and evaluating the architectural heritage of Ireland. Article 1 of the Granada Convention establishes the parameters of this work by defining 'architectural heritage' under three broad categories of Monument, Groups of Buildings, and Sites:

- Monument: all buildings and structures of conspicuous historical, archaeological, artistic, scientific, social or technical interest, including their fixtures and fittings;
- Group of buildings: homogeneous groups of urban or rural buildings conspicuous for their historical, archaeological, artistic, scientific, social or technical interest, which are sufficiently coherent to form topographically definable units;
- Sites: the combined works of man and nature, being areas which are partially built upon and sufficiently distinctive and homogenous to be topographically definable, and are of conspicuous historical, archaeological, artistic, scientific, social or technical interest.

The Council of Europe's definition of architectural heritage allows for the inclusion of structures, groups of structures and sites which are considered to be of significance in their own right, or which are of significance in their local context and environment. The NIAH believes it is important to consider the architectural heritage as encompassing a wide variety of structures and sites as diverse as post boxes, grand country houses, mill complexes and vernacular farmhouses.

13.1.4.2 Westmeath County Development Plan 2021-2027

13.1.4.2.1 Cultural Heritage Policy Objectives

It is a policy objective of Westmeath County Council to:

CPO 14.1 Improve accessibility to our cultural heritage and maximise its potential as a learning resource.

CPO 14.2 Promote the understanding of cultural heritage in terms of its inherent and unique character and to recognise what elements should be preserved, conserved or enhanced.

CPO 14.3 Support the implementation of objectives and actions of the Westmeath County Heritage Plan 2018-2023 and update during the lifetime of the Plan.

CPO 14.4 Support the growth of cultural tourism in the County, including the potential for niche heritage based tourism products by facilitating the development of heritage events, festivals and infrastructure in a sustainable manner

13.1.4.2.2 Archaeology Policy Objectives

It is a policy of Westmeath County Council to:

CPO 14.5 Seek to ensure the protection and sympathetic enhancement of archaeological heritage, and in this regard applications will be referred to the National Monuments Service, Department of Culture, Heritage & the Gaeltacht for comment.

CPO 14.6 Seek to ensure the protection of archaeological sites and monuments and their settings and archaeological objects that are listed in the Record of Monuments and Places, in the

ownership/guardianship of the State, or that are the subject of Preservation Orders or have been registered in the Register of Historic Monuments. Seek to ensure the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places.

CPO 14.7 Ensure that any development adjacent to an archaeological monument or site shall not be detrimental to the character of the archaeological site, or its setting and shall be sited in a manner which minimises the impact on the monument and its setting. Development which is likely to detract from the setting of such a monument or site will not be permitted.

CPO 14.8 Seek to ensure the protection and preservation of underwater archaeological sites in riverine or lacustrine locations.

CPO 14.9 Encourage and promote the appropriate management and maintenance of the County’s archaeological heritage, including historical burial grounds, in accordance with conservation principles and best practice guidelines.

CPO 14.10 Ensure that extensions to archaeologically significant burial grounds will only be permitted, in the event the extension would not constitute a proven risk to archaeological heritage, by means of a direct impact on archaeological features.

CPO 14.11 Consult with the National Monuments Service in relation to proposed developments adjoining archaeological sites.

CPO 14.12 Ensure that archaeological excavation is carried out according to best practice as outlined by the National Monuments Service, Department of Culture, Heritage, and the Gaeltacht, The National Museum of Ireland and the Institute of Archaeologists of Ireland.

CPO 14.13 Prepare conservation plans for the management of archaeological sites and monuments in Council ownership.

CPO 14.14 Encourage increased awareness of and public access to monuments within Council ownership.

CPO 14.15 Ensure that all proposed development affecting disturbance to peatlands is subject to archaeological monitoring, in consultation with the Department of Culture, Heritage and the Gaeltacht, unless otherwise agreed with the Planning Authority.

13.1.4.2.3 **Architectural Heritage Policy Objectives**

It is a policy of Westmeath County Council to:

CPO 14.26 Support initiatives to identify architectural heritage that may be under threat due to climate change or neglect and progress measures and, where possible, support the protection of at risk architectural heritage.

13.1.4.2.4 **Architectural Heritage & Protected Structures Policy Objectives**

It is a policy objective of Westmeath County Council to:

CPO 14.27 Protect and conserve buildings, structures and sites contained in the Record of Protected Structures and to encourage the sympathetic re-use and long-term viability of such structures without detracting from their special interest and character.

CPO 14.28 Protect the architectural heritage of Westmeath through the identification of Protected Structures, the designation of Architectural Conservation Areas (ACAs), the safeguarding of designed

landscapes and historic gardens, and the recognition of structures and elements that contribute positively to the vernacular and industrial heritage of the County.

CPO 14.29 Require that applications for modifications, alterations, or extensions to a Protected Structure will be assessed in accordance with the Architectural Heritage Protection Guidelines 2011 and should be sensitively sited and designed, compatible with its special character, and appropriate in terms of the proposed scale, mass, height, density, layout, and materials so that the integrity of the structure and its curtilage is preserved.

CPO 14.30 Seek that the form and structural integrity of Protected Structures is retained as part of any redevelopment proposal and that the relationship between the Protected Structure and any complex of adjoining buildings, designed landscape features, or designed views or vistas from or to the structure is considered.

CPO 14.31 Encourage rehabilitation, renovation and re-use of existing Protected Structures for their own economic benefit and that of the area in which they are located.

CPO 14.32 Carry out an audit and assess the condition of Protected Structures within the Council's ownership and devise a Conservation Management Plan/maintenance regime for these structures.

CPO 14.33 Carry out an audit of Protected Structures within the Council's ownership to identify any Protected Structures that are under threat directly or indirectly due to climate change.

CPO 14.34 Integrate climate change adaptation measures into future heritage management plans.

CPO 14.35 Provide guidance for owners of protected structures or historic buildings on upgrading for energy efficiency and climate resilient measures and promote the principles of sustainable building design in conservation.

CPO 14.36 Ensure a sustainable future for Protected Structures and buildings sited within ACAs by encouraging and supporting works to upgrade the environmental performance of such structures together with the implementation of measures to address the impacts of climate change. Such works should not adversely affect the special character of the structure including impact on historic fabric, traditional construction, visibility, siting and design. The installation of renewable energy measures and equipment will be acceptable where sited and designed to minimise the visual impact, where it does not result in any significant loss of historic fabric or otherwise affect the significance of the structure.

CPO 14.37 Incentivise the restoration of Protected Structures in towns and villages.

CPO 14.38 Facilitate contemporary and innovative designs providing that they are of a sufficient high quality and do not detract from the character of the historic fabric of the Protected Structure.

13.1.4.3 **Offaly County Development Plan 2021-2027**

13.1.4.3.1 **Built Heritage Policies**

Protected Structures

BHP-01 It is Council policy to ensure the protection, sympathetic and sensitive modification, alteration, extension or reuse of protected structures or parts of protected structures, and the immediate surrounds included and proposed for inclusion in the Record of Protected Structures that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, together with the integrity of their character and setting.

BHP-02 It is Council policy to ensure the protection of the curtilage of protected structures or proposed protected structures and to prohibit inappropriate development within the curtilage or attendant

grounds of a protected structure which would adversely impact on the special character of the protected structure including cause loss of or damage to the special character of the protected structure and loss of or damage to, any structures of architectural heritage value within the curtilage of the protected structure.

BHP-03 It is Council policy to promote best practice and the use of skilled specialist practitioners in the conservation of, and any works to, protected structures. Method statements should make reference to the Department of Culture, Heritage and the Gaeltacht's Advice Series on how best to repair and maintain historic buildings.

BHP-04 It is Council policy to favourably consider the change of use of any structure included on the Record of Protected Structures provided such a change of use does not adversely impact on its intrinsic character and is in accordance with the proper planning and sustainable development of the area.

BHP-05 It is Council policy to actively encourage uses that are compatible with the character of protected structures.

BHP-06 It is Council policy to retain where practicable a protected structure which has been damaged by fire, and to retain those elements of that structure that have survived (either in whole or in part) and that contribute to its special interest.

BHP-07 It is Council policy to prohibit the demolition of any protected structure unless the Council is satisfied that exceptional circumstances exist. The demolition of a protected structure with the retention of its façade will likewise not generally be permitted.

BHP-08 It is Council policy to require an Architectural Heritage Assessment Report, as described in Appendix B of the Architectural Heritage Protection, Guidelines for Planning Authorities, Department of Culture, Heritage and the Gaeltacht (2013), to accompany all applications involving a protected structure.

BHP-09 It is Council policy to advise owners of protected structures in preparation of funding applications under Built Heritage Scheme of the Historic Structures Fund.

BHP-10 It is Council policy to ensure that in the event of a planning application being granted for development within the curtilage of a protected structure, the proposed works to the protected structure should occur, where appropriate, in the first phase of the development to prevent endangerment, abandonment and dereliction of the structure.

BHP-11 It is Council policy to ensure that measures to upgrade the energy efficiency of Protected Structures and historic buildings are sensitive to traditional construction methods and materials and do not have a detrimental physical, aesthetic or visual impact on the structure. They should follow the principles and direction given in the Department of Arts, Heritage and the Gaeltacht's publication Energy Efficiency in Traditional Buildings.

Architectural Conservation Areas

BHP-12 It is Council policy to encourage the retention of original windows, doors, renders, roof coverings, street furniture and other significant features of historic buildings and landscape features within Architectural Conservation Areas.

BHP-13 It is Council policy to proactively promote conservation through the Planning and Development Act 2000 (as amended), the Built Heritage Investment Scheme and other schemes available to the Council.

BHP-14 It is Council policy to preserve the character of Geashill Architectural Conservation Area (ACA) and any future ACA's in County Offaly by ensuring that any new development within or contiguous to the ACA is sympathetic to the character of the area and that the design is appropriate in terms of scale, height, plot density, layout, materials and finishes having regard to the advice given in the Statements of Character for each area.

Vernacular Buildings

BHP-15 It is Council policy to encourage the protection, retention, appreciation and appropriate revitalisation of the vernacular heritage of Offaly.

BHP-16 It is Council policy to consider the guidance in “The Thatched Houses of Kildare” and “Reusing Farm Buildings, A Kildare Perspective” published by Kildare County Council in assessing planning applications in County Offaly relating to thatched cottages and traditional farm buildings.

BHP-17 It is Council policy to preserve the character and setting (for example, gates, gate piers and courtyards) of vernacular buildings where deemed appropriate by the planning authority.

BHP-18 It is Council policy to seek the repair and retention of traditional timber and/or rendered shop fronts and pub fronts, including those that may not be protected structures.

BHP-19 It is Council policy to communicate and work with owners of thatch buildings regarding the availability of conservation grants and funding

BHP-20 It is Council policy to encourage where appropriate the covering of thatch with metal, as a measure for the protection of buildings which are unoccupied and showing signs of considerable distress.

BHP-21 It is Council policy to support proposals to refurbish vernacular structures that are in a run down or derelict condition, provided that;

- Appropriate traditional building materials and methods are used to carry out repairs to the historic fabric; and
- Proposals for extensions to vernacular structures are reflective and proportionate to the existing building and do not erode the setting and design qualities of the original structure which make it attractive.

Industrial Heritage

BHP-22 It is Council policy to protect the industrial heritage of Offaly, including mills, historic industrial buildings, canals and historic bridges.

BHP-23 It is Council policy to utilise the information provided within Mills of County Offaly: An Industrial Heritage Survey (2009) when assessing development proposals for surviving industrial heritage sites.

BHP-24 It is Council policy to protect and enhance the built and natural heritage of the Grand Canal and ensure that development within its vicinity is sensitively designed and does not have a detrimental effect on the character of the canal, its built elements and its natural heritage values and that it adheres to the Waterways Ireland's Heritage Plan 2016-2020.

BHP-25 It is Council policy to encourage appropriate change of use and reuse of industrial buildings, provided such a change does not seriously impact on the intrinsic character of the structure and that all works are carried out in accordance with best conservation practice.

BHP-26 It is Council policy to seek the retention and appropriate repair/maintenance of the historic

bridges and harbours of the county whether they are protected structures or not.

BHP-27 It is Council policy to restrict vehicular access onto public roads that were formerly towpaths and any development permitted with access off a towpath must be screened effectively with trees and hedging. In relation to planning applications for housing in the open countryside with access proposed off towpaths, applicants must demonstrate compliance with Policy SSP-27 as towpaths are located within Natural Heritage Areas and Areas of High Amenity.

Country Houses, Gardens and Demesnes

BHP-28 It is Council policy to encourage the protection, conservation, promotion and enhancement of Country Houses, Gardens and Demesnes in the county and support public awareness, enjoyment of and access to these sites where appropriate.

BHP-29 It is Council policy to encourage the conservation, preservation, restoration and protection in their original setting of mausoleums and monuments: follies, grottoes; garden buildings and other structures of particular beauty or historic, environmental, architectural or industrial significance.

BHP-30 It is Council policy to discourage development that would lead to a loss of, or cause damage to, the character, the principle components of, or the setting of Country Houses, Gardens and Demesnes.

BHP-31 It is Council policy to consider the “Guidance Notes for the Appraisal of Historic Gardens, Demesnes, Estates and their Settings” published by Cork County Council 2006 in the appraisal and description of the impacts of proposed developments in County Offaly within or in close proximity to country houses and demesnes on historic designed landscapes, demesnes and gardens.

Protected Species

BHP-32 It is Council policy to protect habitats and species when considering proposed works to buildings and structures which are likely to impact on protected ecological sites and protected species.

Archaeological Heritage

BHP-33 It is Council policy to support and promote the protection and appropriate management and sympathetic enhancement of the county’s archaeological heritage within the Plan area, in particular by implementing the Planning and Development Act 2000 (as amended) and the National Monuments Act 1930 (as amended).

BHP-34 It is Council policy to seek to promote awareness of and access to archaeological sites in the county where appropriate.

BHP-35 It is Council policy to consult with the National Monuments Service of the Department of Culture, Heritage and the Gaeltacht (DCHG) in relation to archaeological sites within and/or adjoining a proposed development.

BHP-36 It is Council policy to facilitate the identification of important archaeological landscapes in the county.

BHP-37 It is Council policy that any development that may, due to its size, location or nature, have implications for archaeological heritage (including both sites and areas of archaeological potential / significance) shall be subject to an archaeological assessment. When dealing with proposals for development that would impact upon archaeological sites and/or features, there will be presumption in favour of the ‘preservation in situ’ of archaeological remains and settings, in accordance with Government policy. Where permission for such proposals is granted, the Planning Authority will

require the developer to have the site works supervised by a licenced archaeologist.

BHP-38 It is Council policy to ensure that archaeological excavation is carried out according to best practice as outlined by the National Monuments Service, Department of Culture, Heritage and the Gaeltacht, the National Museum of Ireland and the Institute of Archaeologists of Ireland and to protect previously unknown archaeological sites and features, where they are discovered during development works.

BHP-39 It is Council policy to ensure the protection and preservation of underwater and terrestrial archaeological sites, both known and potential in riverine or lacustrine locations including wrecks such as the remains of bridges.

BHP-40 It is Council policy to require archaeological assessment, including underwater archaeological assessment where relevant, for such developments that due to their location, size or nature may have implications for archaeological heritage. Such developments include those that are located at or close to an archaeological monument or site, those that are extensive in terms of area (0.5 hectares or more) or length (1 kilometre or more and developments that require an Environmental Impact Statement.

Monastic Sites

BHP-41 It is Council policy to retain the nominated status of the area comprising the National Monument at Clonmacnoise, enclosing eskers, Mongans Bog, Clonmacnoise callows, Fin Lough and the limestone pavement at Clorhane as the “Clonmacnoise Heritage Zone” in accordance with the recommendations of the study of the area carried out by the Environmental Sciences Unit of Trinity College, Dublin as shown in Figure 10.7 of this Plan.

BHP-42 It is Council policy to investigate the potential of Durrow Demesne as a public amenity and tourism asset.

BHP-43 It is Council policy to support and promote the protection and appropriate management of all monastic sites in the county.

Mass Rocks and Holy Wells

BHP-44 It is Council policy to preserve, protect and, where necessary, enhance mass rocks and holy wells in the County.

Historic Military Fortifications and Castle Sites

BHP-45 It is Council policy to support and promote the protection and appropriate management of historic military fortifications and castle sites in the county.

Funding

BHP-46 It is Council policy to support the progression and delivery of projects that repair and conserve historic structures under the Historic Structures Fund, the Built Heritage Investment Scheme or other funding schemes as applicable.

Community Archaeology

BHP-47 It is the policy of the Council to support the concept of Community Archaeology and greater collaboration in promoting awareness, knowledge and understanding of local archaeological resources in County Offaly

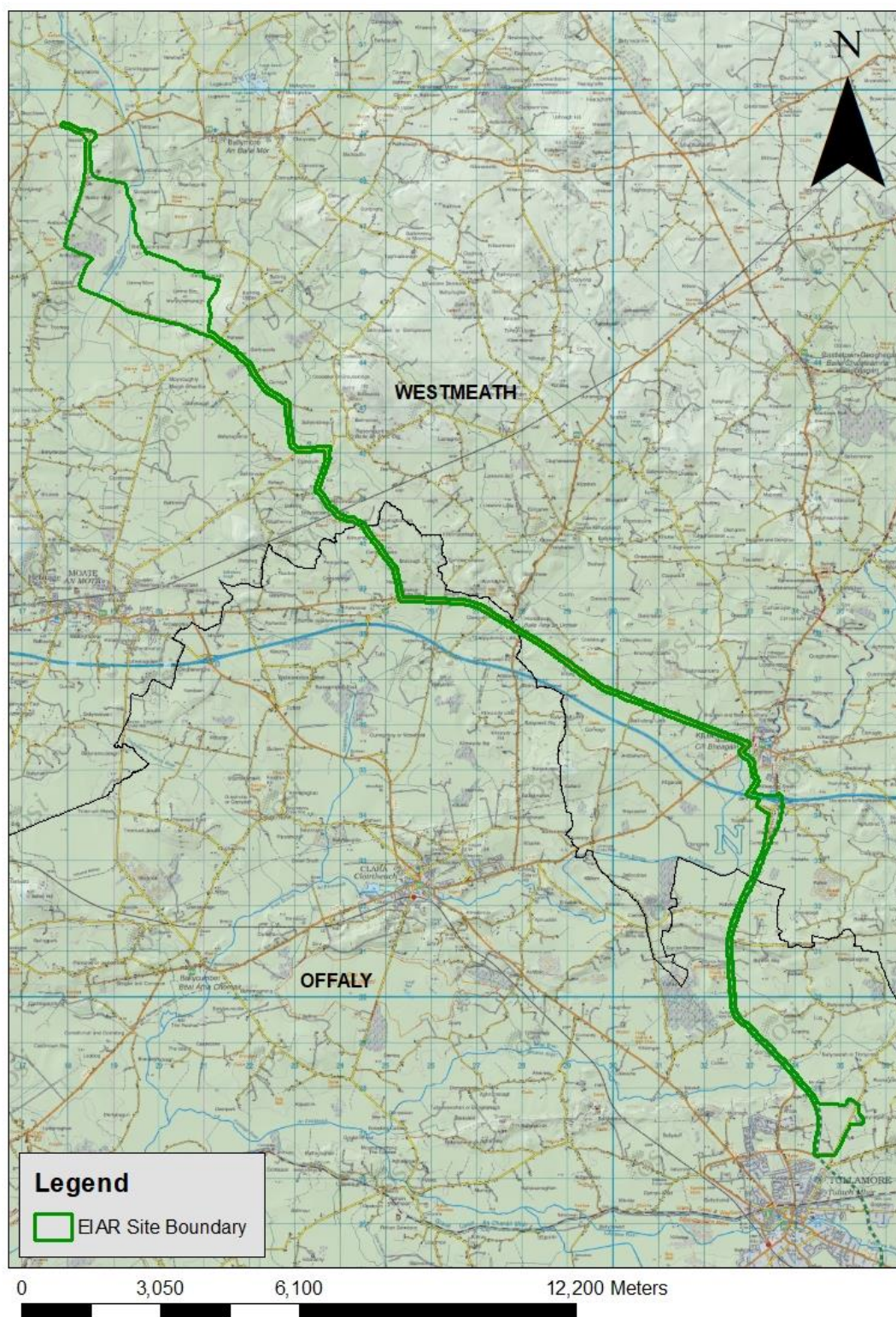


Figure 13-1: Site location map.

13.1.5 Statutory Consultations

13.1.5.1 Westmeath County Council

No archaeology, architectural or Cultural heritage related responses were received from Westmeath County Council.

13.1.5.2 National Monuments Service

No archaeology, architectural or Cultural heritage related responses were received from the National Monuments Services of the Department of Housing, Local Government and Heritage.

13.2 Assessment Methodology

The assessment of the archaeology, architecture and cultural heritage of the Proposed Development included geographic information system (GIS) mapping, desk-based research and field inspection.

13.2.1 Geographical Information Systems (GIS)

GIS is a computer database which captures, stores, analyses, manages and presents data that is linked to location. GIS is geographic information systems which includes mapping software and its application with remote sensing, land surveying, aerial photography, mathematics, photogrammetry, geography and tools that can be implemented with GIS software. GIS was used to manage the datasets relevant to the archaeological and architectural heritage assessment and for the creation of all the maps in this section of the report. This involved the overlaying of the relevant archaeological and architectural datasets on georeferenced aerial photographs and road maps (i.e. Economic and Social Research Institute (ESRI)), where available. The integration of this spatial information allows for the accurate measurement of distances of a proposed development from archaeological and cultural heritage sites and the extraction of information on ‘monument types’ from the datasets. Areas of archaeological or architectural sensitivity may then be highlighted in order to mitigate the potential negative effects of a development on archaeological, architectural and cultural heritage.

13.2.2 Desktop Assessment

The following sources were consulted as part of the desktop assessment for the Proposed Development:

- The Record of Monuments and Places (RMP)
- The Sites and Monuments Record (SMR)
- National Monuments in State Care County Westmeath
- National Monuments in State Care County Offaly
- National Monuments in State Care County Longford
- The Topographical Files of the National Museum of Ireland on www.heritagemaps.ie
- First edition Ordnance Survey maps (OSI)
- Second edition Ordnance Survey maps (OSI)
- Aerial photographs (copyright of Ordnance Survey Ireland (OSI))
- Excavations Database
- National Inventory of Architectural Heritage (NIAH)
- Record of Protected Structures
- Previous archaeological surveys and assessments carried out on or near to the Proposed Development site

Each of these are discussed in the following sections.

13.2.2.1 **Record of Monuments and Places, Sites and Monuments Record and National Monuments**

A primary cartographic source and base-line data for the assessment was the consultation of the Sites and Monuments Record (SMR) and Record of Monuments and Places (RMP) for Counties Westmeath and Offaly. All known recorded archaeological monuments are indicated on 6-inch Ordnance Survey (OS) maps and are listed in these records. The SMR/RMP is not a complete record of all monuments as newly discovered sites may not appear in the list or accompanying maps. In conjunction with the consultation of the SMR and RMP the electronic database of recorded monuments and SMRs which may be accessed at www.maps.archaeology.ie/historicenvironment was also consulted.

A review of all National Monuments in State Care and those subject to Preservation Orders was also undertaken as part of the assessment.

13.2.2.2 **Cartographic Sources and Aerial Photography**

The 1st (1840s) and 2nd (1900s) edition OS maps for the area were consulted, where available, as was OSI aerial photography.

13.2.2.3 **Topographical Files - National Museum of Ireland**

Details relating to finds of archaeological material and monuments in numerous townlands in the country are contained in the topographical files held in the National Museum of Ireland. In order to establish if any new or previously unrecorded finds had been recovered from the Proposed Development site these files were consulted for each townland within and adjacent to the same. Heritage Maps (www.heritagemaps.ie) also contains locational detail for Museum find spots.

13.2.2.4 **Archaeological Inventory Series**

Further information on archaeological sites may be obtained in the published County Archaeological Inventory series prepared by the Department of Housing, Local Government and Heritage (DHLGH). The archaeological inventories present summarised information on sites listed in the SMR/RMP and include detail such as the size and location of particular monuments, as well as any associated folklore or local information pertaining to each site. The inventories, however, do not account for all sites or items of cultural heritage interest which are undiscovered at the time of their publication. Many sites have been discovered since the publication of the Inventory Series, which have now been added to the Sites and Monuments Record.

13.2.2.5 **Record of Protected Structures**

The current and draft County Development Plans were consulted for the schedule of buildings (Record of Protected Structures) and items of cultural, historical or archaeological interest which may be affected by the Proposed Development. The development plans also outline policies and objectives relating to the protection of the archaeological, historical and architectural heritage landscape of County Westmeath and Offaly. The dataset for the Westmeath and Offaly Record of Protected Structures was obtained from ArcGIS online published datasets and added to the base mapping for the Proposed Development in order to accurately assess any potential impacts on such structures.

13.2.2.6 **Excavations Database**

The Excavations Database is an annual account of all excavations carried out under license. The database is available on line at www.excavations.ie and includes excavations from 1985 to 2022. This database was consulted as part of the desktop research for this assessment to establish if any archaeological excavations had been carried out within or near to the Proposed Development site.

13.2.2.7 National Inventory of Architectural Heritage (NIAH)

This source lists some of the architecturally significant buildings and items of cultural heritage and is compiled on a county by county basis by the Department of Housing, Local Government and Heritage (DHLGH). The NIAH database was consulted for all townlands within and adjacent to the Site. The NIAH survey has been published and the digital dataset was downloaded on to the base mapping for the Proposed Development (www.buildingsofireland.ie). The National Inventory of Architectural Heritage (NIAH) is a state initiative under the administration of the Department of Housing, Local Government and Heritage (DHLGH) and established on a statutory basis under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999.

The purpose of the NIAH is to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage. NIAH surveys provide the basis for the recommendations of the Minister for the Department of Culture, Heritage and the Gaeltacht to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).

13.2.2.8 Previous Assessments

No previous assessments were carried out on the Proposed Development site.

13.2.3 Field Inspection

The Site (Wind Farm Site and Grid Connection) was subject to a walk-over survey in March 2022. A photographic and descriptive record was made of the Proposed Development and any features of interest therein. All SMR sites within the Proposed Development site were inspected as well as any other relevant cultural heritage features.

13.2.3.1 Limitations Associated with Fieldwork

No limitations were encountered during fieldwork and all areas were accessed.

13.2.4 Assessment of Likely Significant Effects

The likely effects on the existing archaeological, architectural and cultural heritage environment are assessed using the criteria as set out in the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, May 2022). The following terminology is used when describing the likely effects of the Proposed Development from a Cultural Heritage perspective.

13.2.4.1 Types of Impact

- Direct impacts arise where an archaeological heritage feature or site is physically located within the footprint of the development whereby the removal of part, or all of the feature or site is thus required.
- Indirect impacts may arise as a result of subsurface works undertaken outside the footprint of the development, secondary environmental change such as a reduction in water levels and visual impacts.
- Cumulative Impacts arise when the addition of many impacts create a larger, more significant impact.
- Residual Impacts are the degree of environmental changes that will occur after the proposed mitigation measures have been implemented.

13.2.4.1.1 **Magnitude of Effects (Significance)**

- **Profound:** Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise where an archaeological site is completely and irreversibly destroyed.
- **Very Significant:** An effect which by its character, magnitude, duration or intensity significantly alters most of the sensitive aspect of the environment.
- **Significant:** An effect which by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. An effect like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about an archaeological site.
- **Moderate:** A moderate effect arises where a change to an archaeological site is proposed which though noticeable, is not such that the integrity of the site is compromised and which is reversible. This arises where an archaeological site can be incorporated into a modern day development without damage and that all procedures used to facilitate this are reversible.
- **Slight:** An effect which causes changes in the character of the environment which are not high or very high and do not directly impact or affect an archaeological site.
- **Not Significant:** An effect which causes noticeable changes in the character of the environment but without significant consequences.
- **Imperceptible:** An effect on an archaeological site capable of measurement but without noticeable consequences.

13.2.5 **Methodology for the assessment of impacts on visual setting (indirect effects)**

A standardised approach was utilised for the assessment of impacts of visual setting (indirect effects) according to types of monuments and cultural heritage assets which may have varying degrees of sensitivity. This assessment does not include visits to each and every site as this is considered to be beyond the scope of this EIAR as they are mainly located on private lands to which the public have no access. The assessment of impacts on visual setting was undertaken using both the Zone of Theoretical Visibility (ZTV) map in the Landscape and Visual Impact Assessment (LVIA), as presented in Chapter 12 of this EIAR, and also photomontage / wireline technology from specific cultural heritage assets. The viewshed analysis used in the assessment of potential impacts on the visual setting of cultural heritage assets in the wider landscape of 10km and 25km considers the effects of the proposed turbines only. As detailed in Section 12.1.3 in Chapter 12 of the EIAR, the tall, vertical nature of the proposed turbines make them the most prominent elements of the Proposed Development from a landscape and visual perspective and have the most potential to give rise to significant landscape and visual effects.

Other components of the Proposed Development, i.e. Grid Connection and all other components of the Wind Farm Site are not deemed to be as visually prominent as the proposed turbines.

While direct physical impacts to a site or monument can easily be assessed in quantitative terms, the assessment of impacts on setting can be subjective and as such is a matter of qualitative, professional judgement and experience. The distances below used in the assessment of impacts on setting are regarded as appropriate and are based on professional judgement.

Table 13-1: Distance from the proposed turbines to Cultural Heritage Assets considered according to sensitivity

Cultural Heritage Asset	Distance Considered from the Proposed Turbines
UNESCO World Heritage Sites (including tentative sites)	25km

National Monuments (State Ownership and Preservation Order Sites)	10km
Sites and Monuments and Recorded Monuments, RPS	5km
NIAH structures	5km
Undesignated sites, if relevant	500m

The **potential** visual effects of the turbines on the setting of cultural heritage assets are graded according to two criteria (Table 13-2):

1. **Distance to the nearest turbine:** Each increment of distance is numbered from 1-5 in severity with 1 being the lowest in severity (i.e. 4-5km from the nearest turbine and 5 being the most severe (0-1km from the nearest turbine).
2. **Number of turbines visible on ZTV.** Each increment is also numbered from 1-4 with 1 being the least severe (i.e. 1-2 turbines visible) and 4 being the most severe (7-9 turbines visible).

The number values are then multiplied to arrive at a potential effect (from Not Significant to Significant). Very Significant and Profound are reserved for adverse direct effects which result in the total removal of cultural heritage assets which does not occur from visual impacts. The following table is used to ascertain the potential visual effect not assuming any vegetation, existing buildings, and any other screening in the landscape.

Table 13-2: Grading of Potential visual effects according to Distance and No. of Turbines visible from Cultural Heritage Assets

No of Turbines Visible (ZTV)	1-2 (1)	3-4 (2)	5-6 (3)	7-9 (4)
Distance of asset to turbine				
4-5km (1)	1	2	3	4
3-4km (2)	2	4	6	8
2-3km (3)	3	6	9	12
1-2km (4)	4	8	12	16
0-1km (5)	5	10	15	20
Imperceptible (0)	Not Significant (1-5)	Slight (6-10)	Moderate (11-15)	Significant (16-20+)

13.3 Existing Environment

13.3.1 Results of Field Inspection

13.3.1.1 Wind Farm Site

No new previously unrecorded above-ground monuments were noted within the Wind Farm Site during the walk-over survey.

13.3.1.1.1 Proposed Roads



Plate 13-1: Proposed turbine delivery route from North looking NE.



Plate 13-2: Continuation of proposed turbine delivery route looking N.



Plate 13-3: Continuation of Wind Farm Site entrance road looking E.



Plate 13-4: Same as above looking E.



Plate 13-5: Proposed road looking E.



Plate 13-6: Proposed road and general view of temporary construction compound to the west of T1 looking E.

13.3.1.1.2 Turbine 1



Plate 13-7: Proposed turbine base for T1 looking N.



Plate 13-8: Hardstand for T1 looking S.



Plate 13-9: Proposed road to T1 looking N.



Plate 13-10: Proposed road from T1 to T2 looking N.



Plate 13-11: Proposed road from T1 to T2 looking N.

13.3.1.1.3 Turbine 2



Plate 13-12: Proposed hardstand and turbine base for T2 looking N.



Plate 13-13: Continuation of proposed road to T2 looking N.

13.3.1.1.4 **Turbine 3**



Plate 13-14: Proposed road to Turbine 3 from the north looking S.



Plate 13-15: As above looking SE.



Plate 13-16: Proposed hardstand and turbine base for T3 looking N.



Plate 13-17: Sub-rectangular thicket of trees to the south of T3 turbine looking SE.

13.3.1.1.5 Turbine 4



Plate 13-18: Proposed road through forestry to T4 looking N.



Plate 13-19: Location of T4 within dense forest plantation looking WNW.



Plate 13-20: Proposed road to T4 from the SE looking W.



Plate 13-21 Location where proposed road enters dense forestry from SE towards T4.



Plate 13-22: Proposed road to T4 from the E looking W.

13.3.1.1.6 **Proposed Met Mast Location (SW of T3)**



Plate 13-23: Proposed met mast location looking S

13.3.1.1.7 **Turbine 5**



Plate 13-24: Proposed road from T5 towards met mast and substation looking W.



Plate 13-25: Continuation of proposed road to T5 further E looking W.



Plate 13-26: Proposed road to T5 adjacent to hardstand looking S.



Plate 13-27: Proposed Turbine 5 looking N.

13.3.1.1.8 Turbine 6



Plate 13-28: Proposed road Turbine 6 looking E.



Plate 13-29: Continuation of proposed road to area of T6 / T8 looking E.



Plate 13-30: Proposed road to T6 looking N.



Plate 13-31: Proposed road to T6 looking E.



Plate 13-32: Proposed hardstand and turbine base for T6 looking E.

13.3.1.1.9 **Turbine 8**



Plate 13-33: Proposed hardstand and turbine base for T8 looking SE.



Plate 13-34: Proposed road to T8 looking N.



Plate 13-35: Proposed road from T6 and T8 to T7 and T9 area looking E.

13.3.1.1.10

Turbine 7



Plate 13-36: Track to be upgraded to T7 looking W.



Plate 13-37: Continuation of track to be upgraded to T7 looking W.



Plate 13-38: Proposed road leading to T7 looking E.



Plate 13-39: Proposed hardstand and turbine base for T7 looking E.

13.3.1.1.11

Turbine 9



Plate 13-40: Track to be upgraded to T9 looking N.



Plate 13-41: Continuation of track to be upgraded to T9 looking S.



Plate 13-42: Proposed hardstand and turbine area for T9 looking SE.

13.3.1.1.12

Cultural Heritage



Plate 13-43: Complex of building associated with Umma House (marked on OS historic mapping), looking W - 310m west of Turbine 8



Plate 13-44: High stone wall surrounding small demesne associated with Umma House.



Plate 13-45: Umma House (modernised) looking ENE.



Plate 13-46: Levelled large Enclosure WM24-131 to the south of T7 looking SE.



Plate 13-47: Levelled ringfort WM023-077 looking S.



Plate 13-48: Protected Structure RPS 023-001 Single-arched road bridge over Dungolman River located on southern EIAR Site Boundary.

13.3.1.2 Grid Connection

13.3.1.2.1 Onsite 110kV Substation



Plate 13-49: Proposed on-site substation looking N.

13.3.1.2.2 Proposed Temporary Construction Compound (adjacent to onsite 110kV substation)



Plate 13-50: Proposed temporary construction compound and proposed onsite substation looking NW.

13.3.1.2.3

Underground Electrical Cabling Route



Plate 13-51: Proposed underground electrical cabling route south of substation looking N.



Plate 13-52: Single Arch bridge looking S adjacent to proposed underground electrical cabling route.



Plate 13-53: Route of proposed underground electrical cabling route where it leaves the Wind Farm Site looking E.



Plate 13-54: RPS 024-017 to south of proposed underground electrical cabling route.



Plate 13-55: Continuation of proposed underground electrical cabling route in a south-easterly direction.



Plate 13-56: Unnamed bridge at ITM E623251, N742099 at Custorum townland looking Wt.



Plate 13-57: RPS 031-019 Free standing water pump at Ballybrickoge



Plate 13-58: St Thomas' Catholic Church RPS 031-002



Plate 13-59: Railway bridge at Kilcumreragh RPS 031-004



Plate 13-60: Continuation of underground electrical cabling route at Newtown townland looking S.



Plate 13-61: Continuation eastwards of underground electrical cabling route looking west at Dunard, Offaly.



Plate 13-62: RPS 037-004 Belfry, SS Peter and Paul's Roman Catholic church at Horseleap, Westmeath.



Plate 13-63: RPS 038-064 Freestanding limestone milestone on rectangular plan having pyramidal top at Kilbeggan.



Plate 13-64: Continuation of underground electrical cabling route through green area at Kilbeggan townland looking NW.



Plate 13-65: Ecclesiastical Enclosure and Church WM038-017001 and WM038-017007- Cistercian Monastery at Kilbeggan looking NE.



Plate 13-66: Underground electrical cabling route looking N, SW of above enclosure.



Plate 13-67: Underground electrical cabling route at Tonaphort townland looking N.



Plate 13-68: Route of underground electrical cabling route looking E, west of Junction 5 M6.



Plate 13-69: Underground electrical cabling route north of M6 looking E.



Plate 13-70: Underground electrical cabling route south of M6 looking SE.



Plate 13-71: Continuation south of underground electrical cabling route (N52 to E).



Plate 13-72: Existing Thornsberry 110kV substation looking E.

13.3.2 Archaeological, Architectural and Cultural Heritage

Archaeological heritage includes UNESCO World Heritage Sites and those on the tentative list, National Monuments in State Care and those which are subject to a preservation order, sites listed in the RMP/SMR and newly discovered archaeological sites. Each of these are addressed in the following sections. Sub-surface archaeology is also addressed in the assessment.

A number of documentary and cartographic sources were utilised in order to ascertain the potential for the presence of architectural /cultural heritage features on or within the area of the Proposed Development i.e the Wind Farm Site and Grid Connection, however specific components of both the Wind Farm Site and Grid Connection are addressed further due the linear nature of these development components. Section 13.3.4 addresses the Grid Connection underground electrical cabling route and Section 13.3.5 addresses the Wind Farm Site proposed turbine delivery route. The RPS for Counties Westmeath and Offaly Cultural heritage includes items such as buildings, farmhouses, gates, bridges, piers, and stone field boundaries.

13.3.2.1 UNESCO World Heritage Sites and those on Tentative List

Ireland's Tentative list of World Heritage sites as listed in Figure 13-2 was consulted for those sites that may occur within the 25km study area from the nearest proposed turbine. The Hill of Uisneach and Clonmacnoise are listed on the tentative list (2010) as part of the Royal Sites of Ireland. Their distances to the nearest turbines are presented in Table 13-3.

Table 13-3: UNESCO monuments (Tentative list) within 25km of nearest proposed turbine

Nat. Mon. No.	SMR NO.	ITM E	ITM N	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (M)
155	WM02 4-069, WM02 4-061	628944	748469	Ringfort, Barrow & Stone	Ushnagh Hill	7	8500
81, 250 & 601	OF005-005	600926	730722	Early Medieval Ecclesiastical Site	Clonmacnoise	4	23,500

13.3.2.1.1 The Hill of Uisneach

As detailed in Chapter 12, no image captures were permitted from the Hill of Uisneach. A 'Rendered Wireline' has been produced as part of the Landscape & Visual assessment included as Chapter 12 of this EIAR, and is included as Viewpoint 16 in the Volume 2: Photomontage Booklet. The likely landscape and visual effects arising from the Hill of Uisneach are comprehensively discussed with the aid of ZTV mapping, aerial imagery and online imagery (e.g. Google Street View imagery) and the Rendered Wireline. Similarly, the results are discussed here.

The Royal sites grouped here were all sites of major royal inauguration, ceremony and assembly, representing each of the four Irish provinces: Ulster, Leinster, Munster and Connaught, as well as the region of Meath. Navan Fort* is portrayed as the royal site for the kings of Ulster; Dún Ailinne for the kings of Leinster; Cashel for the kings of Munster and Rathcroghan for the kings of Connaught. Tara

was the seat of the kings of Meath and the seat of the Irish high kings. In addition the Hill of Uisneach is traditionally the epicenter (navel) of Ireland, where the five provinces met. The sites are strongly linked to myth and legend and are associated with the transformation of Ireland from paganism to Christianity and Saint Patrick.

The Ancient Royal site “The Hill of Uisneach” and its integral surrounding landscape was submitted by the State in 2010 for UNESCO World Heritage Site Status. “The Hill of Uisneach” is an ancient ceremonial site of National importance (National Monument Number 155). Such is the importance of this site, that along with Cashel, Dún Ailinne, the Rathcroghan Complex, and the Tara Complex, it was submitted by Ireland as a ‘tentative’ World Heritage Site to UNESCO in 2010 under the title “The Royal Sites of Ireland”. The Westmeath County Development Plan was consulted for any designated archaeological landscapes within the county. No such landscapes are recorded therein. It is an objective of the CDP, however, ‘to designate Fore, Kilbixy, Ardnurcher and the Hill of Uisneach as Archaeological Landscape Areas, in recognition of their numerous archaeological monuments and national heritage significance’ (O-AH6, pg. 105).

National Monument in State Ownership No. 155. Described in 1976 as ‘a roughly circular area (diam. 29.8m ENE-WSW; 28m NNW-SSE) enclosed by a low earth and stone bank with trees growing on it. There is a stream and field boundary to the N. The bank has a slight inner crest on N-NE and is surrounded by a fosse, shallow but fairly wide (rock cut) on NE-E. On the SW and W the fosse is barely visible but here there is a slight indication of a low counterscarp outer bank. Probable entrance (original) gap (With 2.5-5m) on the E. Within the interior there is a considerable amount of stone most of which appears to be the natural limestone outcropping but there are traces though vague of a possible stone structure. A very large limestone slab is visible in the SW quadrant and beside and under this there is evidence of recent digging. The interior slopes slightly from E to W. Macalister suggests that this may be the ecclesiastical site mentioned in the legends but the evidence does not support this’ (SMR File 23/04/1976). Ordnance Survey Fair Plan map depicts a ‘fort’ and shows a small rectangular ruin marked in red ink just N of centre in the interior of the enclosure (SMR File).

National Monument in State Ownership No. 155. Surveyed in 2013 and described by McGuinness (2014, 51) as following: ‘Subcircular enclosure delimited by a broad, low bank (Diam. 22.7m N-S x 25.5m E-W) surrounding a hollowed-out area roughly centred on an enormous, fragmentary limestone boulder (H. c. 4.5m) known as the ‘Catstone’, which is 3.7m from the bank where this is closest on SW side; interior reaches below external ground level and has presumably been excavated to gather material for the bank, and possibly to expose the lower part of the Catstone, as was suggested to Borlase by a local labourer. Monument is located in rough pastureland that slopes down steeply from NE to SW, the slope including both surrounding bank and hollowed interior. Bank ranges from 4.4m to 4.6m in width and reaches up to 1.36m above interior ground-level immediately inside high E side; although on SE side, where bank is prominent, it rises 2.1m above that part of interior immediately adjacent to Catstone; bank reaches up to 0.54m in height above external ground level but may be higher on overgrown S side, where ground falls away sharply. This is the ‘Catstone’, a recent name derived from its supposed appearance. A cylindrical hole visible in the top of the central boulder was clearly intended to support the flag-pole which Macalister and Praeger say was erected on it in its capacity as a recent ‘centre for political and other meetings’. For the historical and mythic significance of this ancient and important monument marking the traditional centre of Ireland, and named variously as Aill na Mireann or ‘Rock of the Divisions’, Petram Coithrigi (Tírechán) and Umbilicus Hiberniæ (Giraldus Cambrensis), see Macalister and Praeger (1928, 78-80) and Schot (2006, 40-41). Dr Cyril Fox, director of the National Museum of Wales, who assisted with the Uisneach excavations, suggested to Macalister and Praeger that the embanked enclosure ‘might have been added to the Catstone stone in order to produce an artificial resemblance to an umbilicus, thus linking the boulder to the Omphalos cult at Delphi and elsewhere’ (Macalister and Praeger 1928, 78). Certainly, as Schot demonstrates with an aerial photograph, it has the appearance of a navel from the air. Among early references to the site, Tírechán in his seventh-century Life of St. Patrick claims that the saint was here with ‘pilgrims’ (peregrini), apparently with the intention of founding a church, and that he met one of the sons of the progenitor of the Cenél Fiachach, Fiachu mac Néill, at the sone. In the Tripartite Life the saint actually founds a monastery at Uisneach: Macalister and Praeger suggest a ringfort c. 200m to SE (WM024-069—

-) as the site of the saint's foundation. There are references in Camden to a Bishopric 'of Meath or Elnamirand [Aill na Mireann]' (Macalister and Praeger 1928, 78-80; Herity 2011, 81; Bieler 1979, 136-7).

Impacts and Mitigation is addressed below in Section 13.4.3.

13.3.2.1.2 Clonmacnoise

The Monastic City of Clonmacnoise and its Cultural Landscape is located in Counties Offaly, Roscommon and Westmeath in the centre of Ireland. It is an unparalleled and outstanding example of a relict early medieval Insular monastic city unobscured by modern building development. It is set within a superlative semi-natural landscape that deepens its spiritual qualities, adding greatly to its authenticity and integrity. The interaction between man and the natural environment in Clonmacnoise is of unique universal value. The architectural ensemble at Clonmacnoise represents an outstanding example of an early medieval Insular monastic city. It represents a significant stage in the development of early medieval Christianity in the North Atlantic. Archaeological excavation coupled with exceptional documentary sources has demonstrated that Clonmacnoise was a *civitas* in reality as well as in name, unlike many other Irish sites, and, moreover, its dates are relatively early in the chronology of urban development outside the boundaries of the old Roman Empire. It is therefore highly significant to our understanding of the development of urbanism generally in Atlantic Europe, as well as clarifying non-Viking urbanisation in an Irish context.

Justification of Outstanding Universal Value

Clonmacnoise is an unparalleled and outstanding example of a relict early medieval Insular monastic city unobscured by modern building development. It is set within a superlative semi-natural landscape that deepens its spiritual qualities, adding greatly to its authenticity and integrity. The interaction between man and the natural environment in Clonmacnoise is of unique universal value.

Criterion (iv.): The Site should be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

The architectural ensemble at Clonmacnoise represents an outstanding example of an early medieval Insular monastic city. It represents a significant stage in the development of early medieval Christianity in the North Atlantic. Archaeological excavation coupled with exceptional documentary sources has demonstrated that Clonmacnoise was a *civitas* in reality as well as in name, unlike many other Irish sites, and, moreover, its dates are relatively early in the chronology of urban development outside the boundaries of the old Roman Empire. It is therefore highly significant to our understanding of the development of urbanism generally in Atlantic Europe, as well as clarifying non-Viking urbanisation in an Irish context.

Criterion (v.): The Site should be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

Clonmacnoise developed in the midst of extensive peatlands at the point where the Slí Mhór, (Great Road) esker crosses the River Shannon. These two great route ways facilitated trade, commerce and pilgrimage in Medieval Ireland. The remains of the monastic city display an outstanding response to the constraints and opportunities provided by an environment shaped by glacial, fluvial and climatic actions. This extremely diverse semi-natural and sacral landscape is the product of human creativity and interaction over many centuries. Sustainable land-use has helped to maintain this diversity of habitats considered to be some of the most endangered worldwide.

The landscape at Clonmacnoise falls into category (ii) of cultural landscapes: an organically evolved landscape which results from an initial social, economic, administrative, and/or religious imperative and has developed its present form by association with and in response to its natural environment. Such landscapes reflect that process of evolution in their form and component features. Clonmacnoise

combines elements of a relict or fossil landscape in which the evolutionary process of urbanisation associated with an initial ceremonial complex came to an end, leaving significant distinguishing features visible in material form, and a continuing landscape with significant evidence of evolution over time.

Statements of authenticity and/or integrity

Authenticity:

The nominated Site is well documented, has a long and continuous recorded history, and has been the subject of in-depth research, aerial mapping, measured survey, photography, written records and archaeological excavation. Overall, the Site has a high level of integrity as a relict monastic landscape and a continuing cultural landscape. In conformity with the Nara Declaration on Authenticity (1994), recent conservation and reconstruction has been limited to the minimum required to achieve structural integrity and public safety.

Integrity:

The physical integrity of the built heritage of the nominated Site is safeguarded through a broad range of existing protective measures under central and local government legislation and planning policies. The integrity of the natural heritage is protected by the highest national and international nature conservation designations.

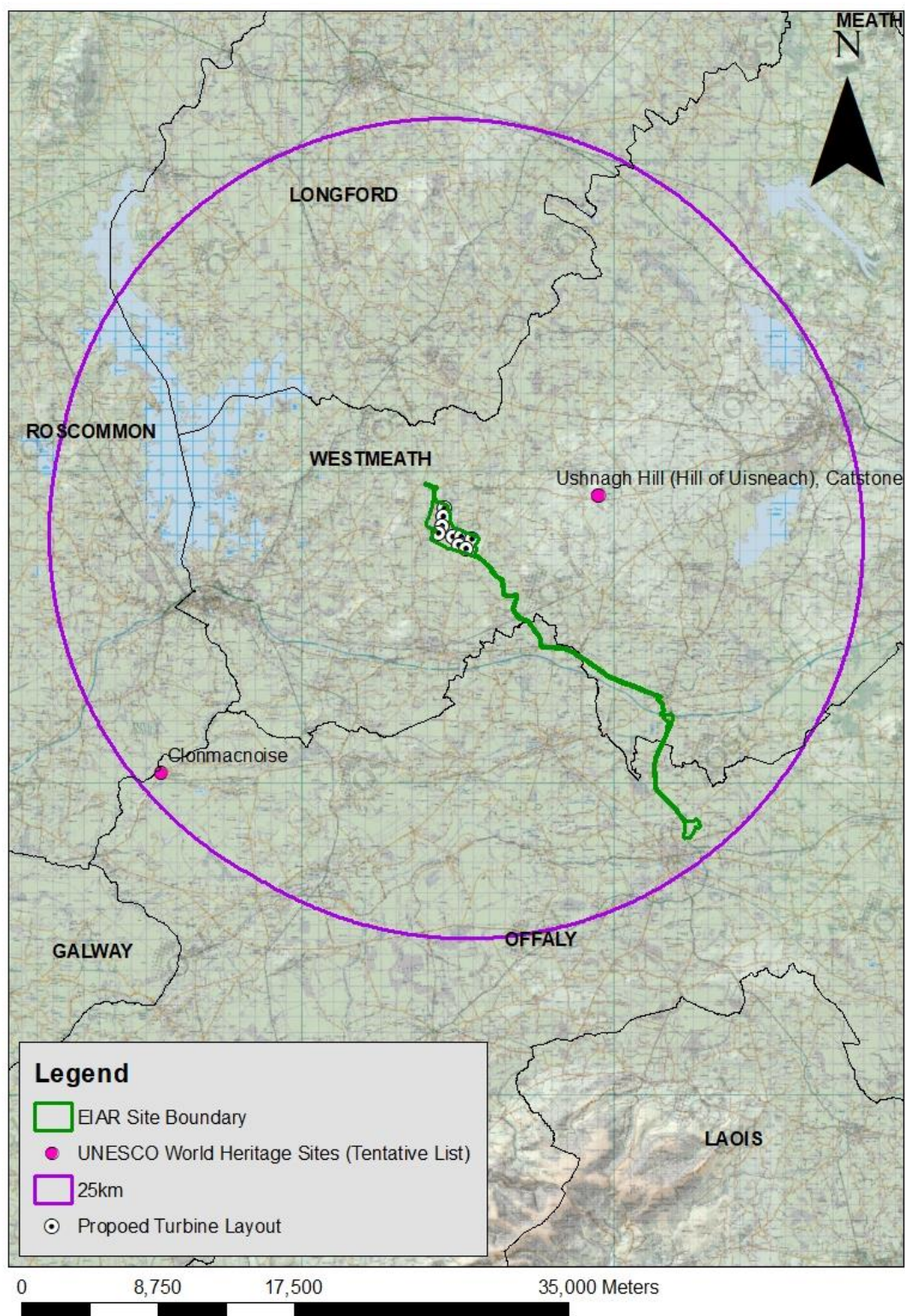


Figure 13-2: UNESCO World Heritage sites on Tentative list within 25km of the nearest proposed turbine.

Table 13-4: Extract from UNESCO's list of Tentative World Heritage sites

Tentative List		
State Party: Ireland		
Last Revision: 08/04/2010		
7 properties		
The Burren	08/04/2010	CN
The Historic City of Dublin	08/04/2010	C
The Céide Fields and North West Mayo Boglands	08/04/2010	C
Western Stone Forts	08/04/2010	C
The Monastic City of Clonmacnoise and its Cultural Landscape	08/04/2010	C
Early Medieval Monastic Sites	08/04/2010	C
The Royal Sites of Ireland: Cashel, Dún Ailinne, Hill of Uisneach, Rathcroghan Complex, and Tara Complex	08/04/2010	C
Legend		
N: Natural		
C: Cultural		
CN: Mixed		

13.3.2.2 National Monuments

National Monuments are those recorded monuments which are in the ownership / guardianship of the Minister for Housing, Local Government and Heritage. They are frequently referred to as being in 'State Care'. National Monuments also include those which are subject to a Preservation Order. Three National Monuments in State Care are located within 10km from the nearest proposed turbines.

Table 13-5: National Monuments within 10km of the nearest proposed turbines

Nat. Mon. No.	SMR NO.	ITM E	ITM N	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)
155	WM02 4-069, WM02 4-061	628944	748469	Ringfort, Barrow & Stone	Ushnagh Hill	7	8800
223	WM02 9-008	610296	742838	Bealin Cross High Cross	Twyford	4	9000
560	WM02 3-013001	614356	749968	Motte	Dunnamona	1	5200

13.3.2.2.1 **National Monument 155 Ushnagh Hill**

This monument has been described in Section 13.3.2.1 above.

13.3.2.2.2 **National Monument 223 Bealin Cross High Cross**

This monument is described in the Archaeological Survey of Ireland files as follows:

‘A National Monument No. 223. In 1837 the Ordnance Survey recorded the following about the location of Bealin High Cross; ‘*On Cross hill in the parish of Ballyloughloe there is a curiously sculptured ancient cross said to have been removed thither from an old graveyard (WM029-009002-) in Twy [ford] by the father of the present Lord Castlemaine. No trace of this graveyard is now visible, but the cross proves that there was an ancient church (WM029-009—) there*’ (OSL 1837, vol. 1, 68).

Bealin High Cross described by Harbison (1992, vol. 1, 25-6) as following; ‘The cross now standing on top of a hill in the former Twyford demesne, close to a lane leading northwards from Bealin Post Office, is almost certainly not in its original location. It is said to have formerly stood beside a well (WM029-009001-) in the demesne. Henry assumed that it was taken from Clonmacnoise, but there would not appear to be any evidence that it is to be identified with a cross marked with the letter R on Blaymires’ 17th century view of Clonmacnoise. Its original location must remain a mystery. The cross stands to a height of about 2.1m above a modern base, and is 27cm thick. Its north arm has been badly damaged, but the original width across the arms must have been about 1.06m. Of the ring, only the lower segment of the south side has been preserved, and its edges have raised mouldings of the same kind as found on the shaft and arms of the cross’.



Figure 13-3: 3D Model of Bealin High Cross (surveyed as an action of the Westmeath Heritage Plan and funded by Westmeath Co. Council January 2018, <https://skfb.ly/6vMYT>)

The monument is just located in an area of the ZTV where one turbine may theoretically be visible. The ZTV (as utilised in Chapter 12 LVIA) was also used as part of this assessment to assist with ascertaining any potential effects on setting. This is a theoretical precautionary scenario and in reality localised screening will alleviate any potential impacts on setting. The photomontage shows no visibility of any turbines.



Plate 13-73: Photomontage AltVP-P showing no turbine visibility (see Appendix 13-5 of this EIAR: Photowires: Early-Stage Photomontage Visualisations for more detail).

Impacts and Mitigation is addressed below in Section 13.4.3.

13.3.2.2.3 560 Dunnamona Motte

This monument is described in the Archaeological Survey of Ireland file as follows:

‘National Monument No. 560. In 1971 the monument was described as a ‘high steep approx. circular earthen almost flat-topped mound. There is mortared masonry visible in the side of the motte. No recognisable trace of a bailey. The earthwork in the triangular corner of the townland to the W of the ‘D’ in Dunnamona is known locally as a churchyard’ (SMR File 21/09/1971). The mortared masonry was described in 1978 as ‘on the west the upper portion of the mound has a rough facing or wall. This wall is of mortared stone and is probably medieval in date. There is a ledge at the base of the wall as if the side of the motte had been scarped or dug into in order to erect the wall. The lower sides of the motte show clear traces of soil creep’ (SMR File 16/06/1978). Another report from 1976 described the monument as a ‘large circular motte. The sides are fairly steep and regular. The southern side has been somewhat disturbed and there is a section of stone wall projecting from the SW side. Outside the motte on the NW and SE the ground has been disturbed by quarrying. The top of the motte is fairly flat, the south and SW part has been partly disturbed by quarrying. The diam. of the top is approx. 30m NW-SE and 21m NE-SW. This earthwork is on a gentle rise in well drained pasture land with wide views in all directions. There are no definite remains of a bailey or indications that one existed here’ (SMR File 26/05/1976).

A second report in 1978 mentioned the presence of earthworks (WM023-013002-) around the base of the motte to the N and W which were described as traces of ‘a bank on the North and Western edges of the quarry to the NW of the motte. This area may represent the site of the bailey. A series of low banks and scarps extends southwards from the motte. SW of the motte and bounded on West and NW by a field fence is a sub-oval shaped enclosure bounded by a low bank set on a scarp. This enclosure is divided by a wide low bank set on a low scarp running across its shorter axis NW-SE. A number of low banks extend East and South from this enclosure to a large circular enclosure to the SE. This enclosure is roughly circular and is bounded by a very low earthen bank set on a very low scarp. There are remains of a very shallow fosse on North, NW and South. The interior of the enclosure is featureless apart from low cultivation ridges which cross it. A number of shallow fosses, probably fairly modern field drain cross the area between this enclosure and the motte. The motte is built on a rise with wide views in all directions, while the circular enclosure is on very low lying ground to the South and the oval enclosure is on slightly higher ground to the SW of the motte. The whole area is crossed by old cultivation ridges and is now covered by long grass which makes detailed inspection fairly difficult’ (SMR File 21/06/1978).

The monument is located in an area of the ZTV where eight turbines may theoretically be visible. This is a theoretical precautionary scenario as the model does not take natural screening and buildings into consideration which may in reality minimise and reduce any potential impacts on setting.

The photomontage shows that some limited visibility of blades are visible. At this distance and scale, the overall impact is considered to be Not Significant.



Plate 13-74: Photomontage PM15 showing limited turbine visibility (see Volume 2 of this EIAR: Photomontage Booklet for more detail).

Impacts and Mitigation is addressed below in Section 13.4.3.

13.3.2.3 Recorded Monuments within the Wind Farm Site

Four recorded monuments are located within the Wind Farm Site. Those along the Grid Connection underground electrical cabling route are dealt with separately below in Section 13.3.3.

Table 13-6: SMRs located within the Wind Farm Site

SMRS	ITM (X)	ITM (Y)	Class	Townland	Turbine No.	Distance (m)	Category
WM024-131	621022	745455	Enclosure -	Raheen	T7	312	0-1km
WM023-077	620905	745285	Ringfort - rath	Ballynafeara gh	T9	444	0-1km
WM024-135	621083	745141	Ringfort - rath	Raheen	T9	584	0-1km
WM023-067	618241	746515	Enclosure	Ardbuckan	T4	660	0-1km

13.3.2.3.1 WM024-131

This is described in the Archaeological Survey of Ireland files as follows:

‘Situated on a slight rise, in low-lying marshy land, overlooked by higher ground in all directions. Depicted on Boyd Belvedere Estate Map of 1818 as a circular-shaped area defined by a perforated line. Depicted on 1837 OS 6-inch map as a large circular-shaped earthwork (approx. dims. 75m E-W; 73m N-S) enclosed by a wide bank. Monument described in 1971 as a very large, irregular-shaped earthwork enclosed by a bank and external fosse with no clear entrance feature visible. The earthen bank is steep and well preserved, except where it is reduced to a scarp at NE and has been disturbed by gaps elsewhere. The slight remains of an outer fosse are best preserved at SW. The interior rises gradually from the perimeter towards the centre and is disturbed by cultivation ridges’.

Field survey associated with the assessment shows that there is barely any visible surface trace of the monument. Impacts and Mitigation is addressed below in Section 13.4.



Plate 13-75: WM024-131 enclosure largely levelled looking south.

13.3.2.3.2

WM023-077

This is described in the Archaeological Survey of Ireland files as follows:

‘Situated on a very slight rise, in wet pasture with wide views to N, SW and W and overlooked by a rise to NE and E. Monument described in 1971 as a circular-shaped area (diam. 20m) enclosed by a bank, fosse and traces of an outer bank. The earthen bank is very low and there is a very shallow fosse visible from NE-E-S-W-NW. The fosse is infilled from NW-N-NE. The ground is uneven beyond the fosse and there are faint traces of a very low outer bank. The interior is has a gentle NE-facing slope and slight remains of old cultivation ridges running E-W’.

Field survey associated with the assessment shows that there is barely any visible surface trace of the monument. Impacts and Mitigation is addressed below in Section 13.4.



Plate 13-76: WM023-077 looking south.

13.3.2.3.3 **WM024-135**

This is described in the Archaeological Survey of Ireland files as follows:

‘Situated on a level area, on a NW-facing slope of a prominent hill, in pasture, with good views to SW, NW and NE. Monument described in the 1970s as a roughly oval-shaped area (dims. 33.7m N-S; 28m E-W) enclosed by an inner bank, an intervening fosse and an outer bank. The monument has been truncated across the E sector by a field boundary running NNE-SSW. There is a slight trace of a levelled inner bank from NE-E-SSE on the opposite side of the field boundary. The remains of the inner bank are only visible from SSE-W-N-NE. An intervening fosse and an earth and stone outer bank are visible from SW-WSW. The original entrance is not visible. The interior is uneven and has a gentle W-facing slope with rocky outcrop visible. A flat-topped, steep-sided bank running NE-SW across the perimeter at S extends 11m into the interior. There is a complex of slight earth and stone banks on the exterior of monument to SW and N.

This monument is largely outside the EIAR Site boundary to the east. Only the very western extent falls within or on the EIAR Site Boundary. Impacts and Mitigation is addressed below in Section 13.4.

13.3.2.3.4 **WM023-067**

This is described in the Archaeological Survey of Ireland files as follows:

‘Situated in open, flat pasture. Depicted on the revised 1913 ed. OS 6-inch map as a rectangular shaped enclosure. Levelled monument described in 1983 as no surface remains visible. Not visible today on Digital Globe aerial photography as the area has been planted with forestry. Not depicted as an antiquity on any edition of the OS 6-inch map. Shown as a rectangular-shaped field on OS 25-inch map’.

Impacts and Mitigation is addressed below in Section 13.4.

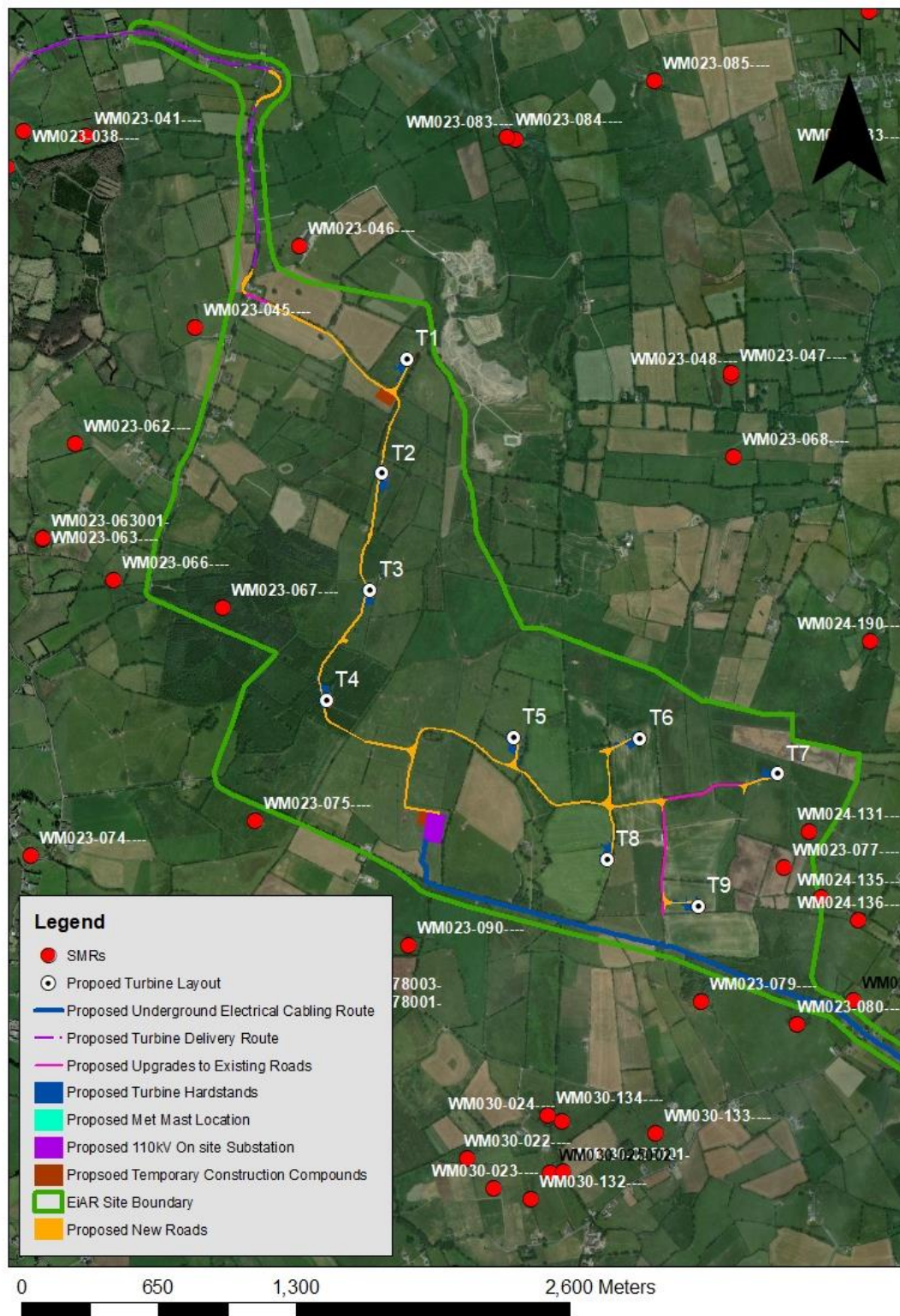


Figure 13-4: SMRs within the ELAR Site Boundary

13.3.2.4 Recorded Monuments within 5km of the nearest proposed turbines

A total of two hundred and twenty two (222) archaeological monuments are located within 5km of the proposed turbines and these are detailed in Table 13-7 below. The monuments locations are shown on Figure 13-6. The monuments within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may potentially be visible from their locations. The ZTV shows that 215 of the 222 have some visibility varying from 1 turbine to 9 turbines. Impacts and mitigation are addressed below in Section 13.4. Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive a level of potential effect on setting. The monument types are detailed on Figure 13-5 Pie Chart. The majority of monuments are represented by Enclosures, Ringforts and Souterrains (Early Medieval Period).

Table 13-7: SMRs within the 5km study area which show theoretical visibility (215 of 222)

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
1	WM01 6-030	61575 8	751160	Ringfort - rath	Rath Upper	T1	4822
2	WM01 6-032–	61757 1	751261	Barrow - mound barrow	Gortmore	T1	3880
3	WM01 6-033–	61749 4	751233	Barrow - mound barrow	Gortmore	T1	3886
4	WM01 6-034–	61773 4	751479	Ringfort - rath	Gortmore	T1	4022
5	WM01 6-035–	61968 1	751836	Ringfort - rath	Toorevagh	T1	4171
6	WM01 6-036–	61879 3	751478	Mound	Calliaghstown (Rathconrath By.)	T1	3789
7	WM01 6-038–	61998 9	751285	Ringfort - unclassified	Newtown (Delvin By.)	T1	3686
8	WM01 6-039–	61954 7	751055	Ringfort - rath	Newtown (Delvin By.)	T1	3379

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
9	WM01 6-040— -	61956 3	750841	Ringfort - rath	Newtown (Delvin By.)	T1	3169
10	WM01 6-041— -	62013 0	750874	Ringfort - rath	Newtown (Delvin By.)	T1	3328
11	WM01 7-083— -	62132 6	751345	Castle - unclassified	Shinglis	T1	4258
12	WM01 7-084— -	62154 3	751136	Enclosure	Shinglis	T1	4202
13	WM01 7-085— -	62163 8	751205	Ringfort - unclassified	Shinglis	T1	4314
14	WM01 7-086— -	62161 5	751159	Military camp	Shinglis	T1	4263
15	WM02 3-014— -	61492 4	749949	Enclosure	Dunnamo na	T1	4759
16	WM02 3- 014001 -	61492 4	749949	House - indeterminate date	Dunnamo na	T1	4759
17	WM02 3-015— -	61456 3	749561	Earthwork	Dunnamo na	T1	4921
18	WM02 3-016— -	61475 2	749582	Castle - unclassified	Dunnamo na	T1	4754
19	WM02 3-017— -	61554 6	749701	Ringfort - rath	Dunnamo na	T1	4094
20	WM02 3-018— -	61648 6	750027	Ringfort - rath	Kilcornan	T1	3512

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
21	WM02 3-019— -	61860 2	750530	Redundant record	Ballynalone	T1	2874
22	WM02 3-020— -	61973 1	750569	Ringfort - rath	Newtown (Delvin By.)	T1	2930
23	WM02 3-021— -	61960 5	750414	Barrow - unclassified	Carricknagower	T1	2754
24	WM02 3-022— -	61885 7	749953	Ringfort - rath	Ballynalone	T1	2265
25	WM02 3-031— -	61433 1	748651	Ringfort - rath	Ardnagragh (Digby)	T1	4881
26	WM02 3-032— -	61475 3	748971	Ringfort - unclassified	Curraghbane	T1	4547
27	WM02 3-034— -	61419 3	747979	Castle - tower house	Ardnagragh (Gray)	T2	4877
28	WM02 3-035— -	61447 6	748322	Ringfort - rath	Cormaclew	T2	4672
29	WM02 3-035001 -	61446 7	748324	House - indeterminate date	Cormaclew	T2	4681
30	WM02 3-036— -	61705 4	748778	Castle - motte	Drumrane y	T1	2328
31	WM02 3-037— -	61711 0	748847	Ringfort - rath	Drumrane y	T1	2312
32	WM02 3-038— -	61730 0	748783	Earthwork	Drumrane y	T1	2116

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
33	WM02 3-039— -	61722 3	748612	Ritual site - holy well	Cartronco ragh	T1	2103
34	WM02 3-040— -	61714 7	748455	Church	Cartronco ragh	T1	2111
35	WM02 3- 040001 -	61714 2	748438	Graveyard	Cartronco ragh	T1	2110
36	WM02 3- 040002 -	61716 5	748445	Graveslab	Cartronco ragh	T1	2091
37	WM02 3- 040003 -	61715 7	748416	Graveslab	Cartronco ragh	T1	2088
38	WM02 3- 040004 -	61716 1	748418	Ecclesiastical enclosure	Cartronco ragh	T1	2085
39	WM02 3-041— -	61759 5	748757	Burial mound	Baskin Low	T1	1853
40	WM02 3-043— -	61638 5	748334	Barrow - unclassified	Drumrane y	T1	2806
41	WM02 3-044— -	61636 2	748202	Moated site	Drumrane y	T1	2802
42	WM02 3- 044001 -	61635 5	748197	House - indeterminate date	Drumrane y	T1	2808
43	WM02 3-045— -	61811 3	747849	Ringfort - rath	Baskin High	T1	1017

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
44	WM02 3-046— -	61860 5	748236	Castle - unclassified	Baskin High	T1	741
45	WM02 3-047— -	62065 3	747631	Standing stone	Snimnago rta	T1	1535
46	WM02 3-048— -	62065 7	747615	Souterrain	Snimnago rta	T1	1540
47	WM02 3-053— -	61415 9	747339	Ringfort - rath	Ardnagra gh (Digby)	T4	4748
48	WM02 3-054— -	61531 3	747457	Moated site	Killeenna nam	T4	3691
49	WM02 3-055— -	61374 2	746296	Ringfort - rath	Waldersto wn	T4	5000
50	WM02 3-057— -	61520 5	746060	Ringfort - rath	Bryanmor e Upper	T4	3532
51	WM02 3-059— -	61562 6	746037	Ringfort - rath	Bryanmor e Upper	T4	3111
52	WM02 3-060— -	61583 2	746222	Ringfort - rath	Carrickan eha	T4	2908
53	WM02 3-061— -	61601 1	746318	Ringfort - rath	Carrickan eha	T4	2736
54	WM02 3-062— -	61754 2	747297	Souterrain	Ardborra	T2	1465
55	WM02 3-063— -	61739 3	746840	Moated site	Ardborra	T4	1544

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
56	WM02 3-063001 -	61739 3	746850	House - indeterminate date	Ardborra	T4	1549
57	WM02 3-064— -	61612 4	746577	Burial mound	Carrickan eha	T4	2660
58	WM02 3-065— -	61713 2	746558	Ringfort - rath	Lissanode	T4	1675
59	WM02 3-066— -	61772 7	746650	Moated site	Ardborra	T4	1160
60	WM02 3-067— -	61824 1	746515	Enclosure	Ardbucka n	T4	660
61	WM02 3-068— -	62066 4	747236	Barrow - mound barrow	Mullenme ehan	T6	1408
62	WM02 3-071— -	61605 4	745163	Ringfort - unclassified	Cloghbree n	T4	2835
63	WM02 3-072— -	61607 0	745015	Ringfort - unclassified	Cloghbree n	T4	2872
64	WM02 3-073— -	61577 0	744615	Enclosure	Fairfield	T4	3309
65	WM02 3-074— -	61733 4	745339	Castle - unclassified	Lissanode	T4	1587
66	WM02 3-075— -	61839 8	745508	Earthwork	Lissanode	T4	665
67	WM02 3-076— -	61747 2	744766	Ringfort - unclassified	Toorbeg	T4	1824

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
68	WM02 3-077— -	62090 5	745285	Ringfort - rath	Ballynafearah (Rathconrath By., Umna Ed)	T9	444
69	WM02 3-078001 -	61867 9	744647	Ringfort - unclassified	Moyvoughly	T4	1434
70	WM02 3-078002 -	61863 7	744640	Earthwork	Moyvoughly	T4	1443
71	WM02 3-078003 -	61867 9	744647	House - indeterminate date	Moyvoughly	T4	1434
72	WM02 3-079— -	62051 3	744648	Ringfort - rath	Raheen	T9	455
73	WM02 3-080— -	62096 6	744537	Ringfort - rath	Raheen	T9	733
74	WM02 3-083— -	61963 0	748743	Mass-rock	Harrystown	T1	1159
75	WM02 3-084— -	61958 9	748752	Water mill - vertical-wheeled	Harrystown	T1	1149
76	WM02 3-085— -	62029 1	749020	Burnt mound	Milltown (Rathconrath By., Ballymore Ed)	T1	1763
77	WM02 3-087— -	61415 6	746612	Mass-rock	Killininneen	T4	4612
78	WM02 3-089— -	61524 3	745988	Ritual site - holy well	Bryanmore Upper	T4	3495

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
79	WM02 3-090— -	61912 8	744915	Enclosure	Moyvoughly	T8	1024
80	WM02 3-092— -	61544 5	745541	Ritual site - holy well	Fairfield	T4	3336
81	WM02 4-001— -	62156 6	750517	Ringfort - unclassified	Shinglis	T1	3729
82	WM02 4-002— -	62166 1	750417	Crannog	Shinglis	T1	3718
83	WM02 4-003— -	62130 9	749349	Military camp	Ballymore	T1	2739
84	WM02 4-004— -	62205 3	749848	Castle - motte and bailey	Ballymore	T1	3634
85	WM02 4- 004001 -	62205 9	749671	Bastioned fort	Ballymore	T1	3537
86	WM02 4- 004002 -	62191 7	749396	Road - hollow-way	Ballymore	T1	3270
87	WM02 4- 004003 -	62199 5	749548	House - 16th/17th century	Ballymore	T1	3417
88	WM02 4-005— -	62181 3	749302	Church	Ballymore	T1	3132
89	WM02 4- 005001 -	62182 5	749308	Graveyard	Ballymore	T1	3146
90	WM02 4-	62184 7	749310	Mausoleum	Ballymore	T1	3166

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
	005002 -						
91	WM02 4-006— -	62307 1	749788	Ringfort - rath	Mullaghcl oe	T1	4468
92	WM02 4-007— -	62281 7	749608	Ringfort - rath	Mullaghcl oe	T1	4159
93	WM02 4- 008001 -	62268 8	749750	Mass-rock	Mullaghcl oe	T1	4114
94	WM02 4- 008002 -	62270 1	749756	Ritual site - holy well	Mullaghcl oe	T1	4128
95	WM02 4- 008003 -	62282 7	749763	Castle - unclassified	Mullaghcl oe	T1	4241
96	WM02 4-032— -	62161 6	749134	Military camp	Ballymore	T1	2878
97	WM02 4-033— -	62121 4	748679	Standing stone	Ballymore	T1	2311
98	WM02 4-034— -	62210 9	748798	Religious house - Augustinian canons	Ballymore	T1	3184
99	WM02 4-035— -	62274 4	749090	Barrow - ring- barrow	Clonyvee y	T7	3845
100	WM02 4-036— -	62288 0	748585	Ringfort - rath	Clonyvee y	T7	3489
101	WM02 4-037— -	62194 1	747828	Ringfort - rath	Clonyban e	T7	2354

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
102	WM02 4-037001 -	62193 5	747819	Enclosure	Clonyban e	T7	2343
103	WM02 4-038— -	62397 7	748930	Ringfort - rath	Maddado o	T7	4457
104	WM02 4-040— -	62444 0	747915	Ringfort - rath	Clare	T7	4182
105	WM02 4-040001 -	62444 0	747909	House - indeterminate date	Clare	T7	4179
106	WM02 4-041— -	62490 7	747766	Ringfort - rath	Rackavra	T7	4517
107	WM02 4-042— -	62470 6	747703	Ringfort - rath	Dungaghy	T7	4310
108	WM02 4-042001 -	62470 6	747703	House - indeterminate date	Dungaghy	T7	4310
109	WM02 4-075— -	62196 9	747356	Ringfort - rath	Clonyban e	T7	1960
110	WM02 4-076— -	62194 3	746911	Ringfort - rath	Clonyban e	T7	1593
111	WM02 4-078— -	62352 4	747149	Castle - tower house	Clare	T7	3006
112	WM02 4-078001 -	62351 0	747145	Bawn	Clare	T7	2991

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
113	WM02 4-079— -	62356 7	746929	Ringfort - rath	Clare	T7	2947
114	WM02 4-080— -	62397 9	747380	Ringfort - unclassified	Clare	T7	3516
115	WM02 4-081— -	62442 7	747287	Ringfort - rath	Dungaghy	T7	3879
116	WM02 4-082— -	62446 7	747048	Ringfort - unclassified	Dungaghy	T7	3827
117	WM02 4-083— -	62444 9	746892	Ringfort - rath	Dungaghy	T7	3759
118	WM02 4-084— -	62482 2	746982	Ringfort - rath	Dungaghy	T7	4141
119	WM02 4-085— -	62497 4	747068	Ringfort - rath	Dungaghy	T7	4312
120	WM02 4-086— -	62493 2	746874	Ringfort - rath	Dungaghy	T7	4216
121	WM02 4-088— -	62416 0	746698	Ringfort - rath	Clare	T7	3425
122	WM02 4-089— -	62368 9	746361	Ringfort - rath	Clare	T7	2884
123	WM02 4-089001 -	62368 9	746361	Hut site	Clare	T7	2884
124	WM02 4-090— -	62562 7	746459	Ringfort - rath	Taghnafeagh	T7	4808

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
125	WM02 4-091— -	62574 8	746314	Ringfort - rath	Taghnafeagh	T7	4908
126	WM02 4-092— -	62512 0	746686	Ringfort - unclassified	Taghnafeagh	T7	4352
127	WM02 4-093— -	62555 0	746623	Ringfort - rath	Ballinkeeny Or Mosstown	T7	4760
128	WM02 4-131— -	62102 2	745455	Enclosure - large enclosure	Raheen	T7	312
129	WM02 4-132— -	62233 7	745983	Barrow - ring-barrow	Ballinlig Lower	T7	1484
130	WM02 4-133— -	62207 7	745481	Earthwork	Ballinlig Upper	T7	1228
131	WM02 4-134— -	62337 3	745990	Ringfort - rath	Clare	T7	2512
132	WM02 4-135— -	62108 3	745141	Ringfort - rath	Raheen	T9	584
133	WM02 4-136— -	62126 0	745036	Children's burial ground	Raheen	T9	763
134	WM02 4-137— -	62123 3	744651	Earthwork	Raheen	T9	861
135	WM02 4-138— -	62409 7	746032	Ringfort - rath	Clare	T7	3237
136	WM02 4-139— -	62447 7	746023	Ringfort - rath	Ballinaspi ck Or Bishopstown	T7	3614

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
137	WM02 4-140— -	62449 1	745980	Ringfort - rath	Ballinaspi ck Or Bishopsto wn	T7	3625
138	WM02 4- 140001 -	62449 1	745980	House - indeterminate date	Ballinaspi ck Or Bishopsto wn	T7	3625
139	WM02 4-141— -	62521 5	745593	Ringfort - rath	Ballinaspi ck Or Bishopsto wn	T7	4343
140	WM02 4- 141001 -	62520 6	745597	Souterrain	Ballinaspi ck Or Bishopsto wn	T7	4334
141	WM02 4-142— -	62555 5	745480	Ringfort - rath	Ballinaspi ck Or Bishopsto wn	T7	4687
142	WM02 4-143— -	62568 4	745276	Ringfort - rath	Ballinaspi ck Or Bishopsto wn	T7	4831
143	WM02 4-144— -	62485 2	744750	Castle - unclassified	Ballinaspi ck Or Bishopsto wn	T7	4097
144	WM02 4-145— -	62490 3	744822	Ringfort - rath	Ballinaspi ck Or Bishopsto wn	T7	4130
145	WM02 4-146— -	62545 5	745198	Ringfort - rath	Ballinaspi ck Or Bishopsto wn	T7	4611
146	WM02 4-171— -	62437 4	744769	Well	Coolatoor	T7	3629

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
147	WM02 4-179— -	62220 5	749032	Settlement deserted - medieval	Ballymore ,Clonyvee ,Mullagh cloe	T1	3360
148	WM02 4- 179001 -	62243 5	749015	Kiln - lime	Mullaghcl oe	T1	3566
149	WM02 4-181— -	62267 4	748499	Religious house - Cistercian nuns	Clonnama nagh,Mull aghcloe	T7	3302
150	WM02 4-182— -	62197 4	748878	Castle - tower house	Ballymore	T1	3087
151	WM02 4- 182001 -	62199 0	748874	Bawn	Ballymore	T1	3100
152	WM02 4-184— -	62193 4	750255	Crannog	Lugacaha	T1	3799
153	WM02 4-185— -	62119 7	750011	Redundant record	Lugacaha	T1	3105
154	WM02 4-186— -	62245 5	748963	Hospital	Ballymore	T1	3566
155	WM02 4-188— -	62209 3	746643	Designed landscape - tree-ring	Ballinlig Lower	T7	1523
156	WM02 4-189— -	62569 8	746977	Water mill - unclassified	Ballinkeen y Or Mosstown	T7	4982
157	WM02 4-190— -	62131 7	746359	Water mill - unclassified	Mullenme ehan	T7	769

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
158	WM02 4-191— -	62204 0	749640	Redundant record	Ballymore ,Mullaghcl oe	T1	3504
159	WM03 0-012— -	61562 7	743326	Ringfort - rath	Legan (Clonlona n By., Mount Temple Ed)	T4	4154
160	WM03 0- 012001 -	61562 7	743326	House - indeterminate date	Legan (Clonlona n By., Mount Temple Ed)	T4	4154
161	WM03 0-013— -	61769 0	744355	Ringfort - rath	Ballyclogh duff (Kilkenny West By., Grogan Ed)	T4	2018
162	WM03 0-014— -	61741 1	743875	Ringfort - rath	Ballyclogh duff (Kilkenny West By., Grogan Ed)	T4	2573
163	WM03 0-015— -	61758 5	743649	Ringfort - rath	Ballyclogh duff (Kilkenny West By., Grogan Ed)	T4	2690
164	WM03 0-016— -	61797 9	744158	Ringfort - rath	Ballyclogh duff (Kilkenny West By., Grogan Ed)	T4	2066
165	WM03 0-017— -	61806 2	744217	Ringfort - rath	Ballyclogh duff (Kilkenny West By.,	T4	1982

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
					Grogan Ed)		
166	WM03 0-018— -	61817 5	744040	Earthwork	Moyvoughly	T4	2116
167	WM03 0-019— -	61623 1	742887	Ringfort - rath	Correagh (Clonlona n By.)	T4	4059
168	WM03 0-020— -	61769 1	743191	Exhibitionist figure (present location)	Ballyclogh duff (Kilkenny West By., Grogan Ed)	T4	3073
169	WM03 0-021— -	61858 4	743019	Standing stone	Moyvoughly	T8	2741
170	WM03 0-022— -	61940 3	743902	Barrow - unclassified	Moyvoughly	T8	1570
171	WM03 0-023— -	61953 1	743761	Barrow - bowl-barrow	Moyvoughly	T8	1653
172	WM03 0-024— -	61985 3	744075	Castle - unclassified	Moyvoughly	T9	1215
173	WM03 0-025001 -	61986 0	743838	Ritual site - holy well	Moyvoughly	T9	1418
174	WM03 0-025002 -	61979 4	743835	Bullaun stone	Moyvoughly	T9	1451
175	WM03 0-026— -	61923 6	743286	Ringfort - rath	Moyvoughly	T8	2202
176	WM03 0-027— -	61934 5	743357	Enclosure	Moyvoughly	T9	2093

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
177	WM03 0-040— -	61567 0	742661	Ringfort - rath	Mount Temple	T4	4593
178	WM03 0-041— -	61558 3	742246	Ringfort - rath	Labaun	T4	4965
179	WM03 0-050— -	61621 5	742362	Ringfort - unclassified	Labaun	T4	4493
180	WM03 0-051— -	61665 2	742518	Ringfort - rath	Dunlom West	T4	4127
181	WM03 0-052— -	61700 8	742651	Ringfort - rath	Dunlom East	T4	3840
182	WM03 0-053— -	61731 5	742543	Ringfort - rath	Ballydoogan	T4	3812
183	WM03 0-054— -	61816 6	742116	Ringfort - rath	Ballydoogan	T8	3729
184	WM03 0-055— -	61681 0	741574	Ringfort - rath	Dunegan	T4	4901
185	WM03 0-056— -	61695 2	741503	Ringfort - rath	Shurock (Clonlona n By.)	T4	4913
186	WM03 0-057— -	61810 5	741504	Enclosure - large enclosure	Ballydoogan	T8	4295
187	WM03 0-079— -	61789 8	741062	Ringfort - rath	Shurock (Clonlona n By.)	T8	4783
188	WM03 0-118— -	61990 0	740249	Crannog	Ballinderry (Clonlona n By.), Kilnabrinch	T9	4891

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
189	WM03 0-129— -	61732 4	741185	Architectural feature	Shurock (Clonlona n By.)	T8	4966
190	WM03 0-130— -	61780 4	743225	Castle - unclassified	Ballyclogh duff (Kilkenny West By., Grogan Ed)	T4	3004
191	WM03 0-131— -	61783 8	743188	Water mill - vertical-wheeled	Ballyclogh duff (Kilkenny West By., Grogan Ed)	T4	3029
192	WM03 0-132— -	61970 6	743706	Enclosure	Moyvoug hly	T9	1607
193	WM03 0-133— -	62029 8	744019	Earthwork	Moyvoug hly	T9	1103
194	WM03 0-134— -	61978 6	744106	Enclosure	Moyvoug hly	T9	1226
195	WM03 1-001— -	62117 1	743288	Ringfort - rath	Ballynagal l (Moycash el By.)	T9	1935
196	WM03 1-002— -	62166 3	743481	Ringfort - rath	Ballynagal l (Moycash el By.)	T9	1996
197	WM03 1-003— -	62175 9	742957	Castle - ringwork	Ballynagre nia	T9	2488
198	WM03 1-004— -	62324 2	743574	Burial ground	Ballybrick oge	T9	3139

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
199	WM03 1-005— -	62400 3	744442	Mound	Coolatoor	T7	3383
200	WM03 1-006— -	62411 1	744428	Ringfort - rath	Coolatoor	T7	3489
201	WM03 1-007— -	62389 8	743999	Stone head	Coolatoor	T7	3484
202	WM03 1-007001 -	62389 8	743999	Inscribed stone	Coolatoor	T7	3484
203	WM03 1-007002 -	62389 8	743999	Architectural fragment	Coolatoor	T7	3484
204	WM03 1-008— -	62401 1	743898	Ringfort - rath	Coolatoor	T7	3632
205	WM03 1-009— -	62486 1	744077	Ringfort - rath	Coolatoor	T7	4316
206	WM03 1-010— -	62506 4	744431	Enclosure	Ballinaspi ck Or Bishopsto wn	T7	4386
207	WM03 1-012— -	62365 1	742931	Castle - motte and bailey	Ballybrick oge	T9	3827
208	WM03 1-013— -	62383 8	742970	Earthwork	Coolatoor	T9	3961
209	WM03 1-014001 -	62410 0	743298	Church	Coolatoor	T9	4027
210	WM03 1-	62405 4	743281	Ritual site - holy well	Coolatoor	T9	3994

MAP ID	SMR	ITM X	ITM Y	CLASS	TD.	TURBINE ID	DISTANCE TO TURBINE (m)
	014002 -						
211	WM03 1-015— -	62448 5	743396	Barrow - mound barrow	Coolatoor	T7	4299
212	WM03 1-016— -	62466 1	743646	Ringfort - rath	Coolatoor	T7	4322
213	WM03 1-044— -	62372 0	742773	House - 17th century	Ballybrick oge	T9	3975
214	WM03 1-045— -	62473 4	742821	Ringfort - rath	Ballintobe r	T9	4810
215	WM03 1-046— -	62482 2	742715	Ringfort - rath	Ballintobe r	T9	4938

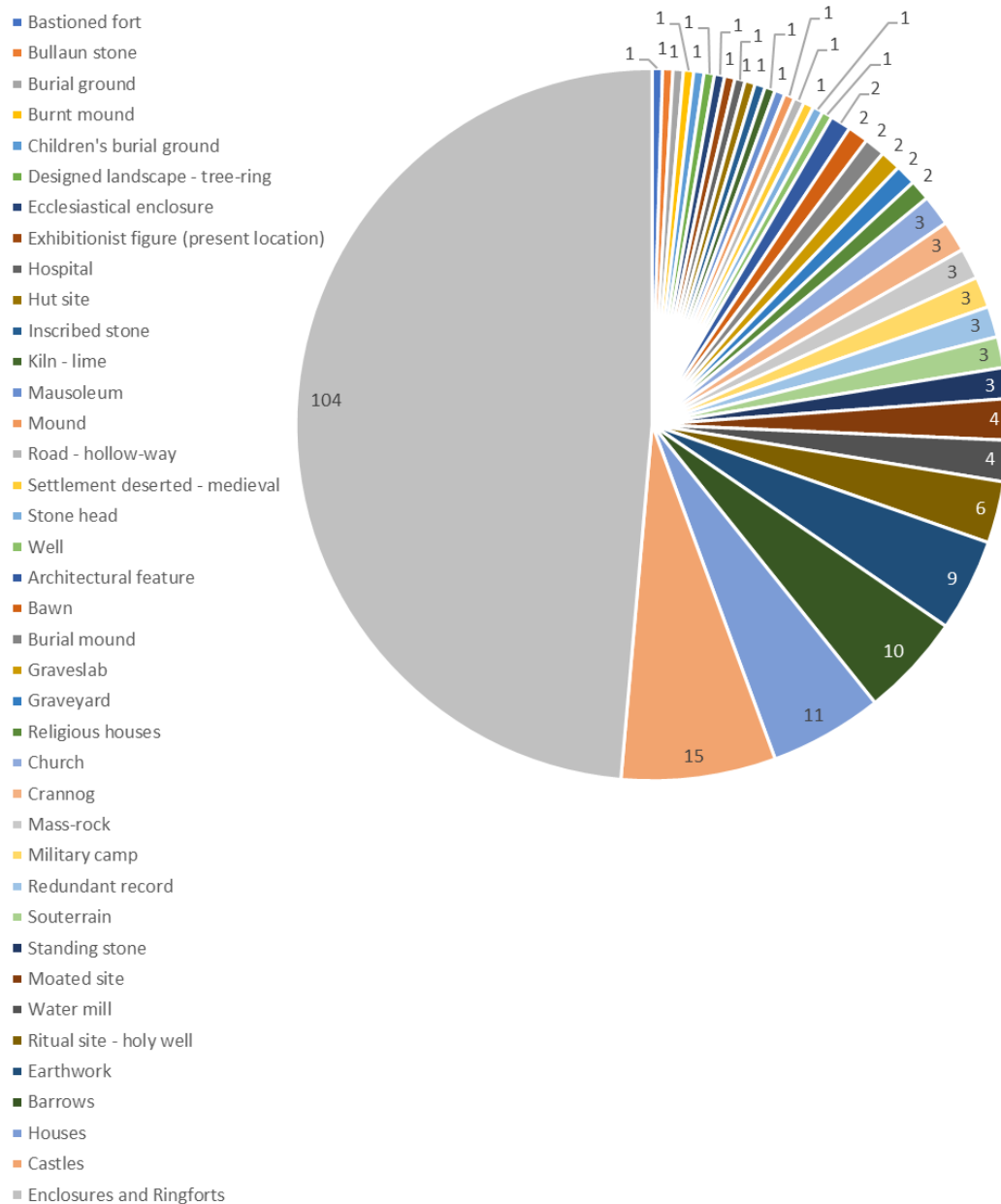


Figure 13-5: Monument types within the 5km study area.

13.3.2.4.1 The Prehistoric Period

The prehistoric period is represented by a relatively low number of monuments including barrows of varying types, a standing stone and a burnt mound.

The barrows include bowl barrows, mound barrows and ring barrows and a number of unclassified structures are also present in the study area. There are 25 bowl barrows in Westmeath and they consist of a circular or oval raised area (generally over 1m above the external ground level) with an external fosse and sometimes an outer bank. The name 'bowl-barrow' refers to the mound element which is like an inverted bowl. They contain and/or cover burials and were in use from the Bronze Age to the Iron Age (c. 2400 BC - AD 400). There are 57 mound barrows in Westmeath and they consist of a circular or oval earthen or earth and stone mound with no external features. Mounds found in association with other barrow types are likely to be mound barrows. They are funerary in nature and contain and/or cover burials. Excavated examples have been dated to the Bronze and Iron Ages (c. 2400 BC - AD 400). Ring Barrows are a circular or oval raised area (generally up to 1m above the external ground

level or level with it) enclosed by fosse(s) and outer bank(s), with or without an entrance. These are part of the Bronze/Iron Age burial tradition (c. 2400 BC - AD 400) and there are 61 examples in Westmeath County alone.

There are 52 records of standing stones in Westmeath, three of which are within the 5km study area. Standing stones consist of a stone which has been deliberately set upright in the ground, usually orientated on a north-east-south-west axis, although other orientations do occur, and varying in height from 0.5m up to 6m. They functioned as prehistoric burial markers, commemorative monuments, indicators of routeways or boundaries and date from the Bronze and Iron Ages (c. 2400 BC - AD 500), with some associated with early medieval ecclesiastical and burial contexts (c. 5th-12th centuries).

There is only one record of a burnt mound in County Westmeath and it is located in rough pasture on the edge of low-lying poorly drained land which is depicted as a pond on the 1837 ed. OS 6-inch map. Low grass covered mound (H 0.2m; diam. c. 10m) of burnt stone and charcoal the core of which was exposed in the S face of a drain by the landowner when deepening a field drain that runs E-W across this wet partially reclaimed land. They consist of a circular or irregularly shaped mound of material consisting of burnt stones, ash and charcoal with no surface evidence of a trough or depression. Levelled examples can appear as a spread containing burnt stones. These can be of any date from the Bronze Age (c. 2400-500 BC) to the early medieval period (5th - 12th century AD).

13.3.2.4.2 *The Early Medieval Period*

The Early Medieval period is represented by enclosures, ringforts and souterrains and to a lesser extent Crannogs. Enclosures consist of an area defined by an enclosing element (e.g. bank, wall, fosse, scarp), or indicated as such cartographically, and occurring in a variety of shapes and sizes, possessing no diagnostic features which would allow classification within another monument category. These may date to any period from prehistory onwards. Enclosures with a diameter greater than 70m should be classed as Large Enclosure. Ringforts are a roughly circular or oval area surrounded by an earthen bank with an external fosse. Some examples have two (bivallate) or three (trivallate) banks and fosses, but these are less common and have been equated with higher status sites belonging to upper grades of society. They functioned as residences and/or farmsteads and broadly date from 500 to 1000 AD.

Three crannogs are located within 5km of the nearest proposed turbine all in excess of 3km. They consist of an island, partly or wholly artificial, built up by dumping timber, earth and stones onto a lake or river bed, often revetted with timber piles or a palisade. Derived from the Irish word 'crannóg'; the Irish word for tree is 'crann' and 'crannóg' principally means a piece of wood or a structure of wood. These date from the 6th to the 17th century AD.

13.3.2.4.3 *Medieval Period*

This period is mainly represented by Castles of varying types at Shinglis, Dunnamona, Ardnagragh (Gray)

Drumraney, Baskin High, Lissanode, Ballymore, Mullaghcloe, Clare, Ballinaspick Or Bishopstown, Ballymore, Moyvoughly, Ballycloghduff (Kilkenny West By., Grogan Ed) Ballynagrenia and Ballybrickoge.

The precise location of the nearest castle WM023-046 at Baskin High medieval castle standing on the lands of Morris Dillon depicted on the Down Survey map of Drumraney parish (NLI, MS 723-4) has not been identified. On this map a tower house type structure is depicted standing in the townland of High Baskin close to the townland boundary of Baskin Low (ibid.). The ASI suggested that this castle may have been located on the site of an 18th/19th century house, but there was no physical evidence at this house to suggest that there was a medieval castle at this location. It was speculated that this medieval 'castle' may have been the same building as the 'Ruin' annotated on Larkin's 1808 Map of County Westmeath (NLI, MS 46,580). No surface remains of this 'Ruin' could be identified at the are marked on the RMP map for Co. Westmeath.

The next nearest structure WM023-074 at Lissanode is situated in open, flat, pasture. It is a levelled monument described in 1983 as no surface remains visible of Lissanode Castle. The Down Survey parish map of Drumraney depicts a tower house type castle in Lissanode standing close to the townland boundary with Ballycloghduff (NLI, MS 723-4). On this map the castle is depicted standing on lands belonging in 1640 to the Dillon family (ibid.). On 26th of January 1600 Captain Edmund Lyster wrote a letter to Christopher Nugent, Baron of Delvin in which he stated that 'O'Neill is burning of Magherocork all this day, and too[has] burned Sir Theobald's [Dillon] own town, and for the most part took all the preys of the country. he also took the castle[s] of Lysnoyd [Lissanode] and Bellanegloghduff [WM030-130—], and in those castle put in his own wards. Sir Theobald himself, his lady, and children, are gone to Athlone yesternight' (Cal. S.P. Ire, 432). Site of Lissanode Castle depicted standing on townland boundary 200m S of 18th century Lissanode House (NIAH Reg. No. 15402309; www.buildingsofireland.ie) on the 1838 ed. OS 6-inch map. A second note pencilled onto the OS map places the monument closer to Lissanode House, at the SW corner of the grounds. There are no upstanding remains of a castle at either of these locations.

The castle WM030-024 at MOYVOUGHLY is a sub-rectangular shaped earthworks visible today only on Digital Globe aerial photographs may be the remains of Moyvoughly Castle. The castle is depicted on the 1657 Down Survey maps of Rathconrath barony and Ballymore parish (NLI, MS 723-4). The castle is not depicted on any edition of the OS 6-inch maps.

A Church (WM023-040) at CARTRONCORAGH has no visible surface trace. It was a church site dedicated to St Éanán whose feastday is celebrated on the 19th of August and 18th of September (Ó Riain 2011, 657-8). Holy well (WM023-039—) dedicated to St Éanán located 140m to NE. Drumraney castle (WM023-036—) located 300m to N. No surface remains visible of the church depicted on all editions of the OS 6-inch maps which is shown standing in the N quadrant of Drumraney graveyard (WM023-040001-). This church was a 19th century C of I church which replaced the medieval church site of Drumraney. The precise location of this medieval church site has not been identified within the graveyard. In 2013 a clean up scheme was undertaken inside the graveyard which resulted in the levelling of the surface of the graveyard and the reseeding of grass which has resulted in the removal of surface features. In the early 1940s Westmeath County Council pulled down the C of I church ruins and used the stone for improvement works on the main road.

The older graveyard occupies the S half of the present graveyard and appears to have been defined by a small enclosure (WM023-040004-) now survived by a scarp running E-W across the middle of the present graveyard. Inside this section of graveyard there are several architectural fragments belonging to the medieval church of Drumraney. Punch dressed stone from the medieval church has been rebuilt into wall of 19th century memorial surround located in W quadrant of graveyard. The head of a cut stone round-arched single light window lies on the surface of the graveyard in the W quadrant. The medieval punch dressed finial stone (H 0.16m ; Wth 0.3m; L 0.3m) belonging to the gable of the medieval church which supported a stone cross lies on the surface of the graveyard 2.95m W of the 1632 graveslab (WM023-040003-). Coping stones for the gable of the medieval church have been reused as a seat built into the inner face of the N face of the graveyard wall. Other architectural fragments such as window mullions lie amongst the headstones of the graveyard and some have may have been reused as gravemarkers.

Another church WM024-005 at Ballymore is described as 'An early 19th century Church of Ireland church ruins dedicated to St. Owen stands on the site of the medieval nave and chancel church of Ballymore Lough Sewdy which was dedicated to St. Mary. The terrier of the 1656 Down Survey map of Ballymore parish states that 'on the lands of Ballimore stands the ruins of an old abbey (WM024-034—) and a ruined church there is also a towne' (NLI MS 723-4). No surface remains visible of the medieval church of Ballymore. Present remains consist of the ruins of a 19th century Church of Ireland church dedicated to St. Owen which was probably built on the site of an earlier church standing on top of low rise of ground in centre of graveyard (WM024-005001-), with good views in all directions.

13.3.2.4.4 **Post Medieval Period**

A number of structures date to the post medieval period. An interesting site, to which no surface trace remains consist of a 1th century house /building. WM024-004003 at BALLYMORE. It is described in the Archaeological Inventory of County Westmeath as follows: *'A building at the southern end of a bastioned fort (WM024-004001-) may be the site of the 'Strong House' of the 'Widow White' described by George Story in 1691. The earthwork marked 'Camp (Site of)' (WM024-004001-) on the 1910 edition of the OS 6-inch map indicates the location of a Jacobite bastioned fort indicated on a sketch map of Ballymore from 1691 as 'The Fort of Ballymore' (Story 1693, 318). This fortification is located at the base of a motte and bailey (WM024-004—) on its southern side and appears to have incorporated the motte as a defensive feature of the bastioned fort. A small circular structure is indicated on top of the motte while two smaller rectangular structures are indicated in the bailey on the northern side of the motte. A church and graveyard (WM004-005—/005001-) are located 275m to the SW of the artillery fort and the village of Ballymore (WM024-179—) is 430m to the south. A circular castle (WM024-034—) is 660m to the south. The site of this building was recorded in 1983 as 'The site of a building located near the S. end of the 'camp' is indicated on an estate map of 1827 (NLI 16J 10 (6)). No trace of this building nor any indication or extent could be discerned on the ground' (SMR File). This building may be the same building as indicated on the 1837 edition of the OS 6-inch map where it is depicted beside the 'Pier of Draw Bridge'. This house or building was described in June 1691 by George Story, a chaplain in the Williamite army as 'This isthmus had been formerly fortified with a double ditch, and within that a stone wall, and then there stood a pretty strong house, where one widow White lived the year before, when Lieutenant-General Douglas march'd that way to Athlone' (Story 1693, 88)'.*

Another post-medieval structure WM031-044 at BALLYBRICKOGE consists of a 17th century house known as 'Old Court' situated NW of an 18th century dwelling annotated 'Rose Mount' (b. 1773, NIAH) on OS 6-inch map. Depicted on the revised 1910 ed. OS 25-inch map as a rectangular-shaped structure in a complex of buildings annotated Old Court. According to O'Donovan (1837 OSNB 26, 7), there is a complex of buildings which 'contains a ruin called the Old Court of Rosemount'. Building described in 1982 as the much altered gable of a 17th century house with a wide chimney breast leading to a high chimney. The remains of an unroofed cottage or farm outbuilding adjoin to W. The latter comprises of one wall and a number of cross walls. Although both structures were originally built of stone, there is a good deal of brick visible. Monument is not clearly visible today on Digital Globe aerial photography.

A Mass Rock WM023-083 at HARRYSTOWN is located in elevated pasture, built into N face of low hill overlooking mill race and old road known locally as Bianconi's road (pers. comm. Dara Reid) immediately to the N. Harrystown flour mill (WM023-084—) located 30m to W, small bridge crossing mill race 8m to NW. This mass rock consists of a flat recumbent slab (L 1.31m; Wth 0.5m; T 0.2m) acting as an altar which was supported on loosely piled stones which has been built into the N face of the hill which rises high above the altar of the mass rock. The mass rock is located beside an old road now used as a laneway which is locally referred to as Bianconi's road. According to the woman living in the nearby mill house this stone was known locally as the mass rock (pers. comm. Dara Reid).



Plate: 13-1: Mass rock WM023-083 (courtesy of NMS)

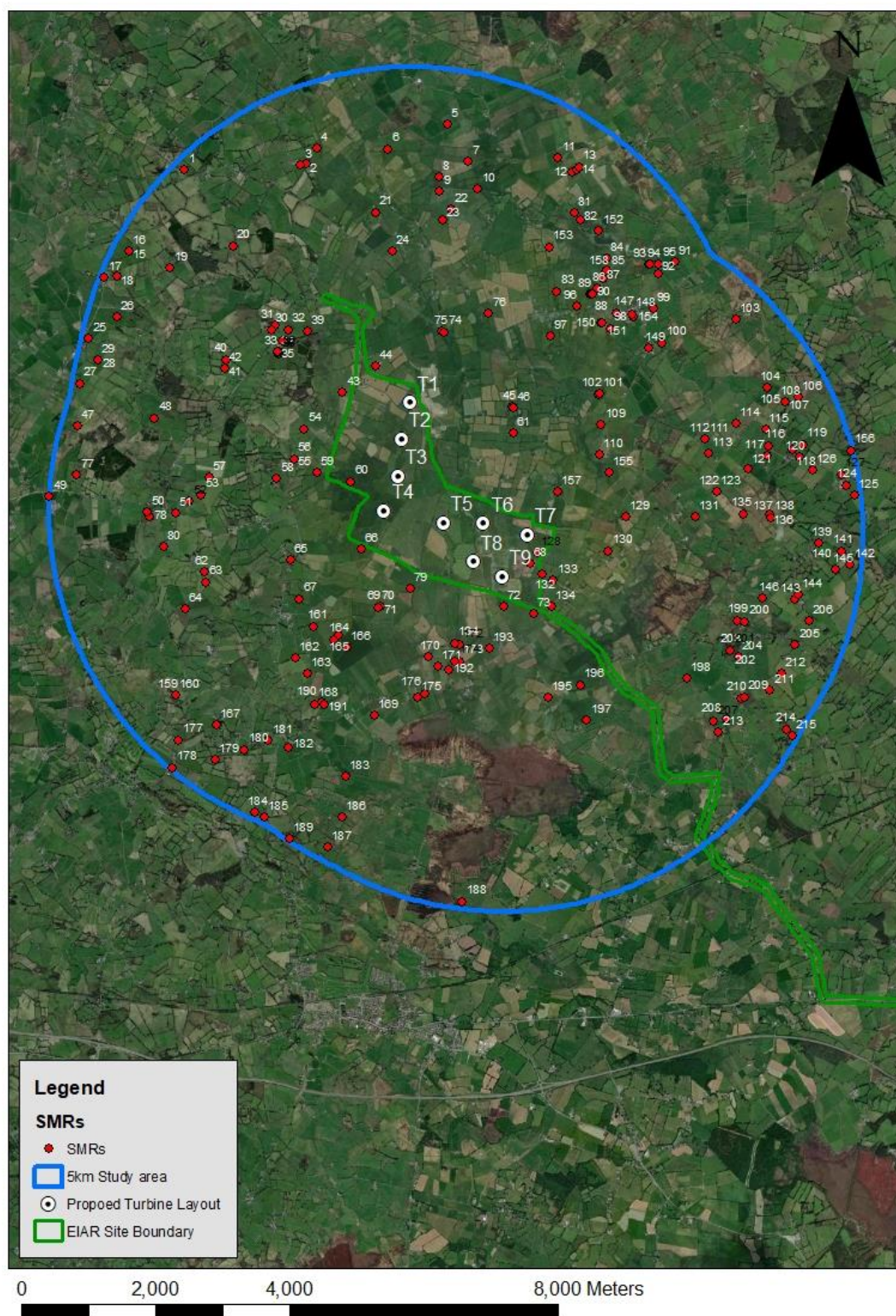


Figure 13-6: SMRs within 5km of the proposed turbines.

13.3.2.5 Excavations Database

The database of excavations carried out in Ireland (www.excavations.ie) was consulted for any such licensed work which took place on or adjacent to the Proposed Development site. One entry was returned for the searched townlands within which the Proposed Development is located.

2002:1886 - Mullenmeehan, Westmeath

The line of the proposed relief water-supply pipeline from Ballymore to Moate, Co. Westmeath, ran through a possible 17th-century house site. This site was originally marked on the Down Survey maps. A relatively modern, c. 19th-century farmyard now occupies the site. The surrounding land is good, level pastureland. There are no traces of any earthworks etc. in the fields near the farmyard.

The line of the pipe was relocated to the eastern side of the road, away from existing cut-stone farm buildings. These buildings have been repaired and reroofed over time and may incorporate earlier structures relating to the Down Survey.

A single test-cutting was excavated in the area of potential in the footprint of the proposed pipeline cut. Testing and subsequent monitoring did not reveal any finds or features of archaeological significance.

13.3.2.6 Topographical Files of the National Museum of Ireland

The topographical files of the National Museum of Ireland on www.heritagemaps.ie were consulted for archaeological finds from the townlands within or adjacent to the Proposed Development site boundary.

No find spots are located within although a number of find spots are located within close proximity to the Proposed Development site.

Name: I.A./177/67 Object Type: Human Skeletons ITM E623403 N743455

Name: I.A./11/62 Object Type: Bronze Harness-trapping ITM E616947 N745598

Name: 1982:4 Object Type: Bronze Figure of a Boars Head ITM E622861 N747146

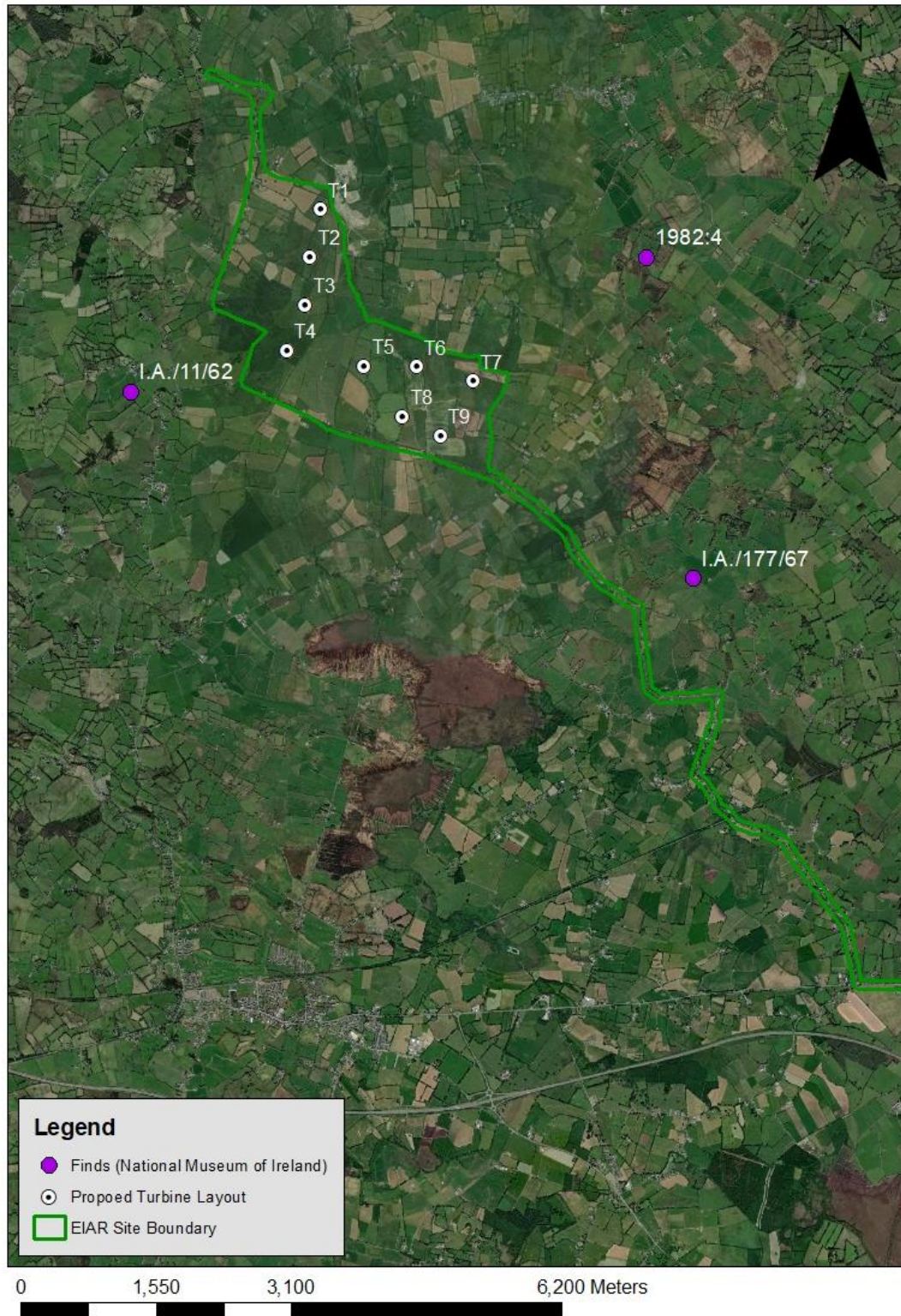


Figure 13-7: Finds located within close proximity

13.3.2.7 Sub-Surface Archaeological Potential

Due to the extent of groundworks including sod removal associated with the construction phase, it is possible that previously unrecorded sub-surface archaeological finds, features or deposits are located

within the Proposed Development site. The potential therefore exists that sub-surface archaeological sites or features, if present within the Proposed Development site, may be directly impacted by construction phase activities. The impact is likely to be significant, negative and permanent. This potential effect is easily negated and is detailed in Section 13.4.2.7 below.

13.3.2.8 Protected Structures within 5km of the nearest proposed turbine

Forty seven protected structures are located within 5km of the proposed turbines. The ZTV shows that one of the 47 has no visibility of turbines. The ZTV, when overlaid on the project GIS mapping shows that 9 turbines are theoretically visible from the locations of 46 RPS Structures. Impacts and mitigation are addressed below in Section 13.4. Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive at a level of potential effect on setting.

Protected structures located along the Grid Connection underground electrical cabling route and transport delivery route are described below in Sections 13.3.3 and 13.3.4 below respectively.

Table 13-8: RPS structures within 5km of the nearest proposed turbines

MAP ID	RPS ID	NIAH	STRUCTURE	Td.	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
1	023-001	15402301	Bridge	Lissanode	618604	745489	T4	605
2	023-002	15402304	St. Mary's Roman Catholic church	Drumraney	616566	748019	T1	2573
3	023-004	15402309	Lissanode House and outbuildings	Lissanode	617263	745551	T4	1566
4	023-005	15402310	Former school master's house	Cartroncoragh	616651	747432	T2	2366
5	023-006	15402312	Drumraney National School	Cartroncoragh	616671	747402	T2	2343
6	024-001	15315002	House (former Garda Station) (derelict)	Ballymore	621107	749047	T1	2399
7	024-002	15315003	Church of the Most Holy Redeemer	Ballymore	621135	748957	T1	2374
8	024-003	15315004	Cunningham's	Ballymore	621209	748997	T1	2458
9	024-004	15315005	Postbox	Ballymore	621230	748987	T1	2471

MAP ID	RPS ID	NIAH	STRUCTURE	Td.	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
10	024-005	15315006	Rooney's/ Kennedy's	Ballymore	621243	748995	T1	2486
11	024-006	15315008	House	Ballymore	621323	749065	T1	2590
12	024-007	15315009	Water pump	Ballymore	621362	749052	T1	2617
13	024-008	15315010	St. Owen's Church of Ireland church	Ballymore	621817	749295	T1	3132
14	024-009	15315012	House	Ballymore	621925	749120	T1	3143
15	024-010	15315013	House	Ballymore	622167	749046	T1	3330
16	024-011	15315015	Bridge	Mullaghcloe	622214	749034	T1	3369
17	024-012	15315016	Water pump	Mullaghcloe	622221	749041	T1	3378
18	024-013	15315017	House	Mullaghcloe	622228	749027	T1	3379
19	024-014	15315018	Former store	Mullaghcloe	622383	749051	T1	3531
20	024-015	15315020	Rooney's	Clonyveey	622506	749094	T1	3661
21	024-016	15315022	Mass rock - Sunday's Well	Mullaghcloe	622700	749756	T1	4128
22	024-017	15402401	Foxe's Shop	Raheen	621270	744489	T9	985
23	024-024	15402409	Well	Ballinlig Lower	622749	745713	T7	1875
24	024-026	15402413	House	Mullenmeehan	621155	747274	T7	1569
25	024-027	15402414	Former rectory - St. Owen's Rectory	Glebe	621399	747725	T7	2062
26	024-030	15402418	Postbox	Ballinlig Upper	622308	745485	T7	1454

MAP ID	RPS ID	NIAH	STRUCTURE	Td.	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
27	024-031	15402420	Bridge	Ballinlig Lower	622931	745910	T7	2064
28	030-066	15403012	Carved limestone panel, Ballycloghduff House	Ballycloghduff (Grogan)	617691	743195	T4	3069
29	030-067	15403013	Ballycloghduff House	Ballycloghduff (Grogan)	617784	743199	T4	3035
30	030-069	15403017	Ballinderry House	Ballinderry	620624	740113	T9	4991
31	030-070	15403018	Outbuildings, Ballinderry House	Ballinderry	620625	740156	T9	4948
32	030-071	15403019	Gateway	Ballinderry	620792	740312	T9	4800
33	031-002	15403103	St. Thomas' Roman Catholic church	Ballybrickoge	623712	741808	T9	4601
34	031-003	15403104	Rosemount National School	Ballybrickoge	623591	741689	T9	4606
35	031-008	15403113	Outbuildings, Coolatore House	Coolatoor	623871	744175	T7	3376
36	031-009	15403114	Coolatore House	Coolatoor	623922	743993	T7	3508
37	031-010	15403115	Gateway, Coolatore House	Coolatoor	623806	744060	T7	3374
38	031-011	15403116	Gateway, Grouse Lodge	Coolatoor Or Grouselodge	623637	744068	T7	3224
39	031-012	15403117	Postbox	Coolatoor	623802	744102	T7	3350
40	031-013	15403118	Grouse Lodge	Coolatoor Or Grouselodge	623454	744119	T7	3041
41	031-014	15403119	Outbuildings, Grouse Lodge	Coolatoor Or Grouselodge	623449	744157	T7	3017

MAP ID	RPS ID	NIAH	STRUCTURE	Td.	ITM E	ITM N	TURBINE	DISTANCE TO TURBINE (m)
42	031-015	15403120	Cottage, Grouse Lodge	Coolatoor Or Grouselodge	623470	744173	T7	3027
43	031-016	15403121	Rosemount Post Office	Ballybrickoge	624117	742436	T9	4494
44	031-017	15403122	Rosemount House	Ballybrickoge	623794	742718	T9	4066
45	031-018	15403123	Entrance gateway, Rosemount House	Ballybrickoge	623810	742375	T9	4289
46	031-019	15403124	Water pump	Ballybrickoge	623682	742117	T9	4364

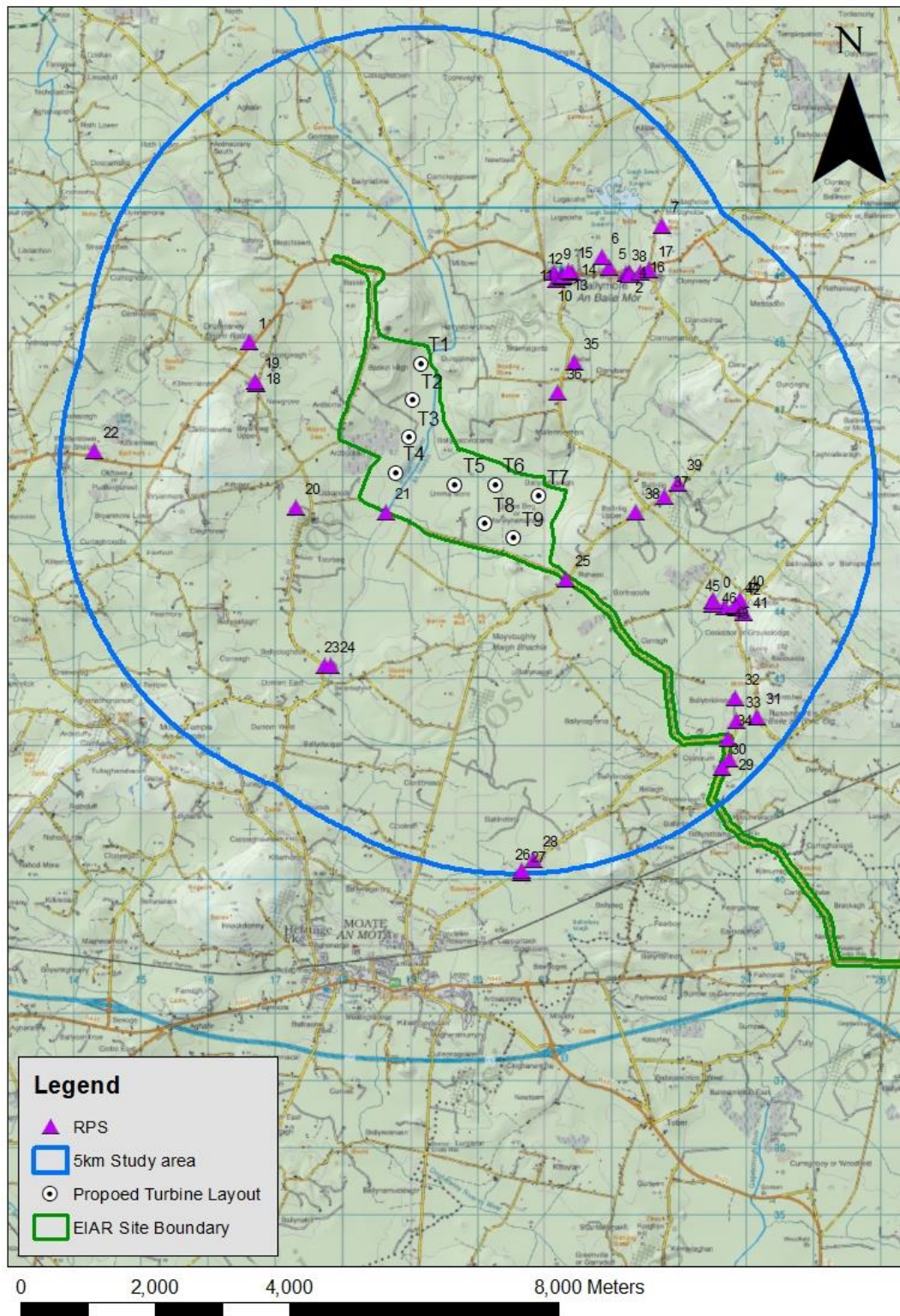


Figure 13-8: RPS structures located within 5km of the proposed turbines.

13.3.2.9 NIAH structures within 5km of the nearest proposed turbines

Seventy-two structures listed in the NIAH are located within 5km of the nearest proposed turbine and are detailed in Table 13-9 below. NIAH structures located along the Grid Connection underground electrical cabling route are described below in Section 13.3.3 below. Of the 72 structures, 2 have no visibility of any turbines. Impacts on the remaining 70 structures and associated mitigation measures are addressed below in Section 13.4.

Table 13-9: NIAH sites within 5km of the nearest proposed turbine.

Map ID	NIAH	Td.	Structure	ITM X	ITM Y	Turbine No.	Distance To Turbine (m)
1	15402301	Lissanode, Moyvoughly	bridge	618605	745489	T4	605
2	15402401	Raheen	house	621271	744489	T9	986
3	15402415	Raheen	Gates /railings / walls	621537	744863	T9	1065
4	15402418	Ballinlig Upper	post box	622308	745485	T7	1454
5	15402309	Lissanode	house	617264	745551	T4	1565
6	15402413	Mullenmeehan	house	621156	747274	T7	1569
7	15402302	Snimnagorta	house	620766	747455	T6	1649
8	15402419	Ballinlig Lower	house	622658	745609	T7	1788
9	15402409	Ballinlig Lower	well	622749	745713	T7	1874
10	15403015	Moyvoughly	stables	619009	743653	T8	1978
11	15402414	Glebe (Clonlonan By.)	Rectory /glebe / vicarage /curate's house	621400	747725	T7	2063
12	15402420	Ballinlig Lower, Clare	bridge	622931	745910	T7	2064
13	15402303	Williamstown (Fore By., Mayne Par.)	house	617171	744614	T4	2145
14	15402421	Clare	house	623079	745988	T7	2220
15	15402312	Cartroncoragh	school	616671	747402	T2	2342

Map ID	NIAH	Td.	Structure	ITM X	ITM Y	Turbine No.	Distance To Turbine (m)
16	15402310	Cartroncoragh	school master's house	616652	747432	T2	2365
17	15315003	Ballymore	Church / chapel	621136	748957	T1	2375
18	15315002	Ballymore	house	621107	749047	T1	2399
19	15315004	Ballymore	house	621211	748994	T1	2458
20	15315005	Ballymore	post box	621231	748987	T1	2471
21	15315006	Ballymore	house	621241	748996	T1	2485
22	15315007	Ballymore	house	621270	749059	T1	2542
23	15402304	Drumraney	Church / chapel	616565	748020	T1	2574
24	15315008	Ballymore	house	621320	749066	T1	2589
25	15315009	Ballymore	water pump	621362	749052	T1	2617
26	15403014	Williamstown (Fore By., Mayne Par.)	house	617031	744058	T4	2646
27	15315001	Ballymore	farmyard complex	621423	749374	T1	2846
28	15315001	Ballymore	farmyard complex	621417	749401	T1	2857
29	15402305	Killeennanam	house	616125	747474	T2	2893
30	15403119	Ballinderry (Moyashel & Magheradernon By.)	outbuilding	623450	744157	T7	3018
31	15403120	Ballinderry (Moyashel & Magheradernon By.)	cottage ornee	623470	744173	T7	3026
32	15403013	Ballycloghduff (Molston)	house	617784	743199	T4	3035
33	15403118	Ballinderry (Moyashel & Magheradernon By.)	country house	623454	744119	T7	3041
34	15403012	Ballycloghduff (Molston)	unknown	617692	743195	T4	3068

Map ID	NIAH	Td.	Structure	ITM X	ITM Y	Turbine No.	Distance To Turbine (m)
35	15315010	Ballymore	church/chapel	621821	749302	T1	3139
36	15315012	Ballymore	house	621925	749120	T1	3144
37	15315011	Ballymore	gates/ railings/ walls	621915	749157	T1	3151
38	15403116	Ballinderry (Moyashel & Magheradernon By.), Coolatoor	demesne walls / gates/ railings	623637	744068	T7	3224
39	15315021	Balrath (Fore By.)	monastery	622691	748491	T7	3305
40	15402306	Killininneen	house	615445	746451	T4	3313
41	15315013	Ballymore	house	622167	749046	T1	3330
42	15315014	Ballymore	filling pump/ station	622180	749021	T1	3332
43	15403117	Coolatoor	post box	623802	744102	T7	3350
44	15402311	Newtown (Delvin By.)	house	620487	750778	T1	3365
45	15315015	Ballymore, Mullaghcloe	bridge	622215	749034	T1	3369
46	15403115	Coolatoor	demesne walls /gates / railings	623806	744060	T7	3374
47	15403113	Coolatoor	farmyard complex	623871	744175	T7	3376
48	15315016	Mullaghcloe	water pump	622222	749041	T1	3378
49	15315017	Mullaghcloe	house	622229	749027	T1	3379
50	15401610	Calliaghstown (Moygoish By.)	house	618508	751088	T1	3439
51	15403114	Coolatoor	house	623922	743993	T7	3508
52	15315018	Mullaghcloe	outbuilding	622383	749051	T1	3531
53	15315019	Mullaghcloe	house	622381	749072	T1	3537

Map ID	NIAH	Td.	Structure	ITM X	ITM Y	Turbine No.	Distance To Turbine (m)
54	15315019	Mullaghcloe	house	622406	749078	T1	3562
55	15315020	Clonyveey	house	622509	749095	T1	3665
56	15403122	Ballybrickoge	country house	623793	742718	T9	4066
57	15315023	Mullaghcloe	monument	622632	749812	T1	4098
58	15315022	Mullaghcloe	mass rock	622701	749756	T1	4128
59	15403123	Ballybrickoge	demesne walls / gates/ railings	623810	742375	T9	4289
60	15403102	Kilcatherina	house	621943	741024	T9	4327
61	15403124	Ballybrickoge	water pump	623682	742117	T9	4364
62	15403109	Coolatoor	house	625011	743998	T7	4484
63	15402307	Walderstown	house	614257	746396	T4	4491
64	15403121	Ballybrickoge	house	624117	742436	T9	4494
65	15403103	Ballybrickoge	church/ chapel	623711	741808	T9	4601
66	15403104	Ballybrickoge	school	623592	741689	T9	4606
67	15403011	Labaun	house	615819	742492	T4	4624
68	15403019	Ballinderry (Clonlonan By.)	gates/ railings/ walls	620792	740312	T9	4800
69	15402308	Walderstown	farmyard complex	613847	746175	T4	4891
70	15401609	Ardnacrany North	house	615937	751422	T1	4894
71	15403018	Ballinderry (Clonlonan By.)	outbuilding ; stables	620626	740156	T9	4948
72	15403017	Ballinderry (Clonlonan By.)	country house	620625	740113	T9	4991

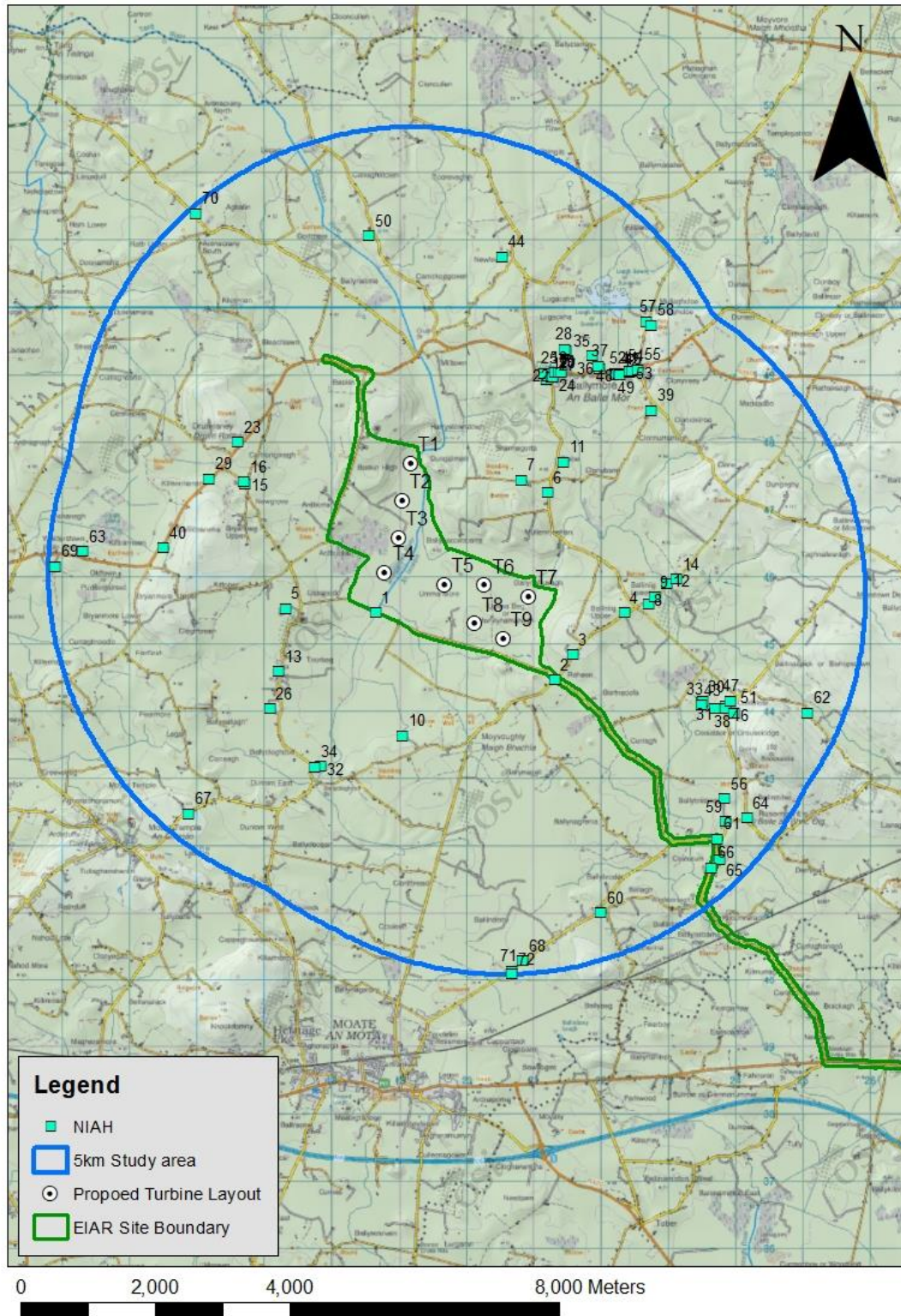


Figure 13-9: NIAH within 5km of the proposed turbines.

13.3.2.10 Cartographic Evidence and Local Cultural Heritage

The available historic Ordnance Survey maps were consulted for any items of cultural heritage merit that may be located within the Proposed Development site.

The Ordnance Survey came to Ireland in 1824 in order to carry-out a precise admeasurement of the country's 60,000 or so townlands as a preliminary to the larger task of reforming Ireland's local taxation system. The townland boundaries were demarcated by a Boundary Commission, and the Ordnance Survey had the task of measuring them. In addition to boundaries the maps are truly topographical in content. Drawn at the large scale of six inches-to-one-mile (1:10,560) it was important to mark all buildings, roads, streams, placenames, etc, that were required for valuation purposes. Ultimately the maps were used as a basis for the rateable valuation of land and buildings in what became known as Griffith's Valuation. Working from north to south, the survey began in Antrim and Derry in 1829 and was completed in Kerry in 1842. It was published as thirty-two county maps between 1832 and 1846, the number of sheets per county varied from 153 for County Cork to 28 for Dublin, each of the 1,994 sheets in the series depicting an area 21,000 by 32,000 feet on the ground. Each county was projected on a different central meridian and so the maps of adjacent counties do not fit neatly together at the edges. Map content stops at the county lines.

The early Ordnance Survey maps are an unrivalled source for the period immediately before the Great Irish Famine (1847-50) when the population was at the highest level ever recorded in Ireland. The first edition map (1829-41) for the area of the Proposed Development shows a largely open featureless landscape with the exception of Umma House Demesne.

13.3.2.10.1 **Umma House Demesne**

Umma House is located 295m west of the proposed turbine T8. The house is derelict and has been modernised with a slate roof and boarded windows. The structure is marked on the 25inch OS Historic map and also the 1st Edition OS map of the late 1800s. Umma house is shown on the western side of the small demesne on the earlier 1st Edition map whereas it is marked at the East on the later 25 inch edition. The outbuildings associated with the house still stand to some degree although are in a state of disrepair also. Neither structures are listed in the Record of Protected Structures or the NIAH and are considered to be of low architectural merit albeit of local cultural heritage value. A photographic record of the house and associated buildings is detailed in Section 13.3.1.

Impacts and mitigation are dealt with in section 13.4.2.14.

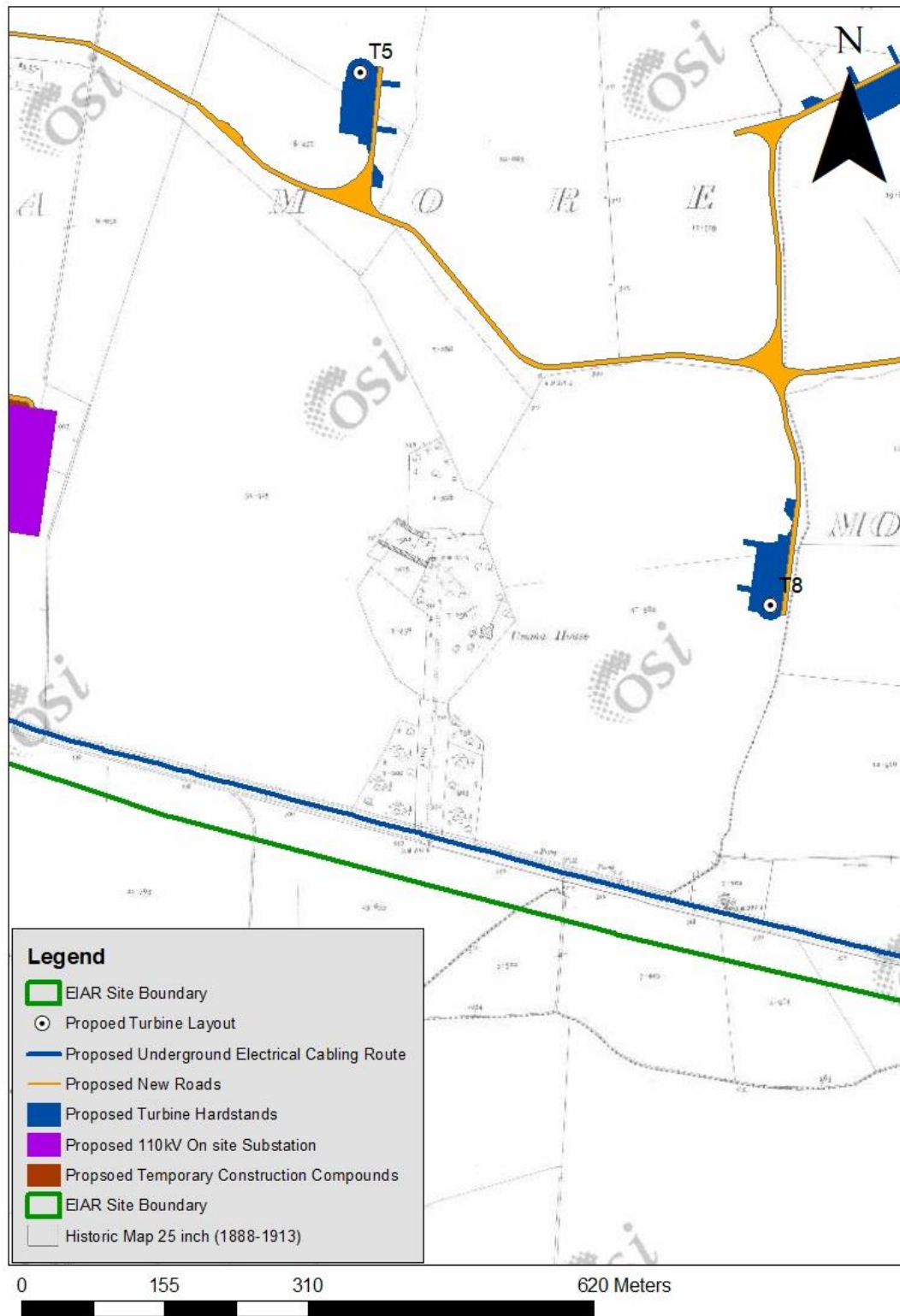


Figure 13-10: Umma House on 25 inch OS map

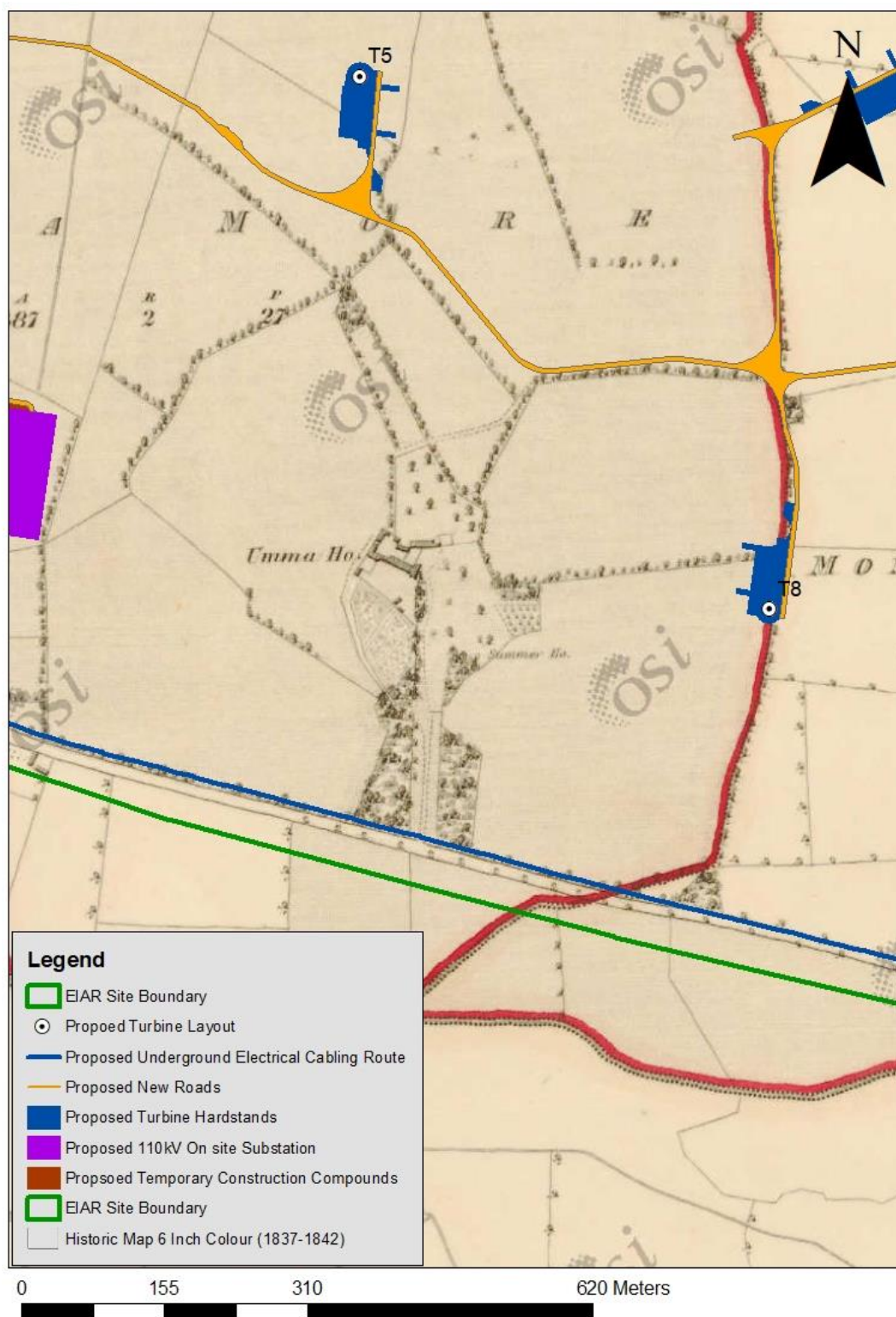


Figure 13-11: Umma House on 1st Edition OS map

13.3.2.11 Townlands and administrative boundaries

Townlands and administrative boundaries may indicate the presence of archaeological features within a development site. Administrative counties are subdivisions of pre-established counties which were formed for administrative purposes in the nineteenth and twentieth centuries. Baronies are administrative units larger than civil parishes and originally established as the primary subdivision of counties by the British administration in Ireland. Irish baronies which were formed at the time of the Norman conquest were usually named either after Irish territories, or from places which had been of importance in pre-Norman times. Irish baronies came into existence at different periods. The division of Ireland into counties and baronies was a process which continued down to the reign of James I. The original baronies in Ireland were the domains of the Norman barons; in the final stage of development they were divisions of counties created merely for greater convenience of administration. The word barony is of feudal origin, and was applied to a tenure of a baron, that is, of one who held his land by military service, either directly from the king, or from a superior feudal lord who exercised royal privileges. The origin of the Irish barony (a division of land corresponding to the English hundred) is to be found in the grants of lands which were made to the barons of Leinster and the barons of Meath (Liam Price, 'Ráith Oinn', Éigse VII, lch. 186-7). Civil parishes are administrative units larger than townlands and based on medieval ecclesiastical parishes. Civil parishes, modern Catholic parishes and Church of Ireland parishes may differ in extent and in nomenclature. Counties are administrative units larger than baronies and originally established by the British administration in Ireland between the twelfth and the seventeenth centuries. Some of these were subsequently subdivided into smaller administrative county units.

Townlands are the smallest land units which were determined and established in the Irish administrative system in the first half of the nineteenth century. Many of the townlands were in existence prior to that. Townland names are a valuable source of information, not only on the topography, land ownership and land use within the landscape, but also on its history, archaeological monuments and folklore. Logainm.ie was utilised to ascertain the origin of the townland names within the Proposed Development site. The Linked Logainm project has created a Linked Data version of the authoritative bilingual database of Irish place names logainm.ie, maintained by Fiontar in collaboration with the Placenames Branch. The new Linked Logainm dataset provides Irish place name data in a structured, computer-readable format which allows its value to be fully exploited by collaborators, web developers, computer scientists, the heritage community and information professionals. It also encourages the international dissemination of Irish language place names which have been given legal status by the then Department of Arts, Heritage and the Gaeltacht.

Townland	Logainm Meaning
Baskin Low and Baskin High	No specific translation
Dungolman	No specific translation provided
Ballynacorra	No specific translation provided
Ardborra	No specific translation provided
Umma more	No specific Translation provided

Townland	Logainm Meaning
Ardbuckan	No specific Translation provided
Ballynafearagh	No specific Translation provided
Raheen	No Specific Translation or archival records
Lissanode	No Specific Translation or archival records
Moyvoughly	Maigh Bhachla meaning a Plain

13.3.3 Grid Connection Underground Electrical Cabling Route

The Grid Connection onsite 110 kV substation and temporary construction compound are located within the Wind Farm Site and are addressed in the above section.

The Grid Connection includes for underground 110kV cabling from the proposed onsite 110kV substation within the Wind Farm Site to the existing Thornsberry 110kV substation in the townland of Derrynagall or Ballydaly, County Offaly. The underground electrical cabling route, measuring approximately 31 km in length, is primarily located within the public road corridor. It encompasses the following townlands: Acantha, Aghancarnan, Ardan, Ballinderry Big, Ballinderry Little, Ballinlig, Ballybought, Ballybrickoge, Ballynagrenia, Ballynasrah or Tinnycross, Brackagh, Cappydonnell Little, Cartron Glebe, Curragh, Cloncruff, Custorum, Dunard, Durrow Demense, Derrynagall or Ballydaly, Gormagh, Hallsfarm, Kilcumreragh,, Kilbeg, Kilbeggan, Kilbeggan South, Kilmurragh, Meadowpark, Meeldrum, Newtown, Pallas, Raheen, Rostalla, Shureen and Ballynasuddery, Tonaphort, Umma Beg or Moneynamanagh, Umma More

Cultural heritage assets within 100m of either side of the underground electrical cabling route are included in the assessment in order to ascertain any potential effects and any required mitigation measures to alleviate or minimise such effects if identified. A photographic record of the Grid Connection underground electrical cabling route is presented in Section 13.3.1.1.12.

13.3.3.1 National Monuments in State Care

No such assets are located within 100m of the underground electrical cabling route.

13.3.3.2 Sites and Monuments Record

Eleven SMR sites are located within 100m of either side of the underground electrical cabling route and these are presented in Table 13-10 and Figure 13-12 below. The measurements are based on the distance between the outermost element of the monument (identifiable from either aerial imagery or historic mapping) and the underground electrical cabling route.

Table 13-10: SMRs within 100m of the underground electrical cabling route.

SMR NO.	ITM E	ITM N	CLASS	Townland	Distance to cable route (m)	Comments
OF002-003	624688	740239	Ringfort - rath	Kilmurragh	73	
OF002-009	62665	738706	Ringfort - unclassified	Newtown (Kilcoursey By., Kilcumreragh Ed)	57	
OF002-043	624849	740018	Standing stone	Cartron Glebe	88	
OF017-037	634471	727080	Charcoal-making site	Ardan	Within road take	Excavated as part of N52 Tullamore bypass
OF017-038	633835	728466	Metalworking site	Ardan	25	Excavated as part of N52 Tullamore bypass
OF017-039	634443	727578	Metalworking site	Ballynasrah Or Tinnycross	Within road take	Excavated as part of N52 Tullamore bypass
OF009-005029	632492	730711	Redundant record	Durrow Demesne	32	
WM024-137	621233	744651	Earthwork	Raheen	81	
WM037-004	629242	737239	Ringfort - rath	Kilbeg	26	
WM038-017001	633051	735217	Ecclesiastical enclosure	Kilbeggan	Adjacent and traverses Zone of Archaeological Potential (ZAP)	
WM038-017007	633051	735217	Religious house - Cistercian monks	Kilbeggan	Adjacent and traverses Zone of Archaeological	

SMR NO.	ITM E	ITM N	CLASS	Townland	Distance to cable route (m)	Comments
					Potential (ZAP)	

13.3.3.2.1 **WM024-137 Earthwork**

Situated on a low rise, in pasture, with a large subcircular-shaped pond c. 70m to ESE. Depicted as an earthwork on Larkin's 1808 Map of Co. Westmeath (NLI, MS 46,580). Not depicted on the 1837 ed. OS 6-inch map or the revised 1913 ed. OS 25-inch map. **Monument described in 1978 as no surface remains visible** Figure 13-13.

13.3.3.2.2 **OF002-003 Ringfort**

On top of a ridge of natural rock outcrop with good views in all directions. Subcircular shaped area (25.9m N-S ; 28.6m E-W) enclosed by an earth and stone bank (Wth 2.1m; int. H 1m, ext. H 0.5m) with no evidence of an external fosse or entrance feature. A modern field boundary intersects the site at N (Figure 13-14).

13.3.3.2.3 **OF002-043 Standing Stone**

Rectangular conglomerate stone (H 1.2m; 0.65m x 0.4m) which tapers at the top from NE to SW. No evidence of packing stones at its base, the stone appears to be set deeply into the ground. Aligned NE-SW (Figure 13-14).

13.3.3.2.4 **OF002-009 Ringfort**

Formerly situated on rising ground in an area of undulating countryside. Depicted as a raised circular platform on the 1838 edition of the OS 6-inch map and outlined as a circular feature on the 1908 ed. OS 6-inch map. Site was destroyed several years ago leaving **no remains visible at ground level**. An earlier report (SMR File 1977) described this monument as 'an earthwork has been recently levelled. It appears to have been a ringfort approx. 25-30m in diameter. The interior was gently rounded' (Figure 13-15).

13.3.3.2.5 **WM037-004**

Situated on SW-facing slope of a ridge running E-W, in pasture, with good views to S, W and NW. Depicted on the 1837 ed. OS 6-inch map as a large roughly circular-shaped earthwork with a rectangular-shaped building abutting to SW. Depicted on the revised 1910 ed. OS 25-inch map as a roughly oval-shaped earthwork. Monument described in 1977 as an oval-shaped area (dims. 41m ENE-WSW; 36m WNW-ESE) enclosed by a bank mainly reduced to a scarp with slight traces of an external fosse only visible from NW-N-NE. No clear entrance feature visible. The monument is fully enclosed by a field fence from NE-E-S-W. At W, NW, N and NNE. There are livestock gaps at W, NW, N and NNE. The interior has a gentle S-facing slope with evidence of rock outcrop close to the surface. Monument is visible today as an oval-shaped tree-lined earthwork on Digital Globe aerial photography (Figure 13-17).

13.3.3.2.6 **WM038-017001- Ecclesiastical enclosure and WM038-017007- Cistercian Monastery**

Kilbeggan town (WM038-017—) is situated on the River Brosna in the low-lying countryside of south Westmeath. According to Gwynn and Hadcock (1970, 388) a monastery was founded at Kilbeggan by St Beagán in the sixth or seventh century. Its name is derived from Chill Bheagáin, meaning the

church of Beagán's (OS Letters 1837). In 1837 Thomas O'Connor recorded in the Ordnance Survey Letters that 'the common name prevalent among those who give the monastery its Irish name is mainistir Cill Beacáin [monastery of the church of Beacáin]'. There is no certain mention of this saint's name in the early martyrologies. According to Ó Riain (2011, 92-3) the church of Kilbeggan may be named after St Beagán of Foithearbh Shinhill, son of Colmán son of Diarmuid, ancestor of the Clann Cholmáin. The patron's day at Kilbeggan was held on the 24th of July, the eve of the feast of St James. The Urban Survey suggested that 'the church of St Beagán was located in or beside the old graveyard (WM038-017002-) south-west of the town but definite evidence can only be obtained by archaeological excavation' (Bradley et. al. 1985, 104). Swan (1988, 17) suggested that there was evidence of an Early Christian ecclesiastical enclosure in the semi-circular form of the graveyard (WM038-017002-) boundary wall.

In 2003 a geophysical survey carried out by GeoArc Ltd uncovered the sub-surface remains of the Cistercian Abbey of Kilbeggan (WM038-017007-) and the findings from this survey suggested that the abbey was 'wrapped around an early medieval monastery, which is still in use as a graveyard (WM038-017002-) (Hayden 2006, 522). In 2004 a geophysical survey carried out by Earthsound on behalf of ADS Ltd revealed the remains of a curving ditch to the W of the Cistercian abbey which may be the remains of an ecclesiastical boundary ditch that was possibly associated with a large cemetery containing approximately 960 burials. Archaeological excavations took place at this cemetery between April and July 2005 by Eoin Corcoran under licence No. 04E1327ext. The summary results of the excavation revealed 'a burial ground with a subrectangular ditched enclosure around it measuring c. 20m by 20m. Approximately 960 burials were excavated from within the enclosure, as well as a substantial amount of disarticulated remains. The majority of the burials were orientated from east to west in simple graves. It appears to have been a community burial ground used over a period of time, as all ages were well represented in the assemblage. Most of the burials intercut each other and phases were difficult to elucidate, given the density of the burials. Some of the burials had finds associated with them, including a bone comb, a double-sided copper alloy comb, a coloured glass bead and a finger ring. Three burials exhibited signs of violent death – two by arrowheads and one by a spearhead, all found in rib cages during excavation. There was evidence for possible structures and metalworking activity within the burial enclosure in the form of several post-holes, possible smithing hearths and the recovery of slag from some deposits. Towards the east of the site portions of a large ditch that would be affected by the Proposed Development were excavated. This ditch may be part of the enclosing ditch for the Cistercian abbey located to the east of the site. Further analysis of the material removed from the ditch is being carried out in order to establish a date for it. Post-excavation analysis of the remains from this site is ongoing' (Corcoran 2008, 377-8).

According to Gwynn and Hadcock (1970, 388) a monastery (WM038-017001-) was founded at Kilbeggan by St Beagán in the sixth or seventh century. The early monastery was superseded by a Cistercian monastery dedicated to the Blessed Virgin Mary. This abbey known as De Benedictio Dei, was founded c.1150 as a daughter house of Mellifont, probably by members of the MacCochlain family (Gwynn and Hadcock 1970, 137). In 1213 Mael Sechlainn MacCochlain, Lord of Delvin, died on pilgrimage to the abbey and in the same year his sons Ruaidhri and Mael Sechlainn died there (ibid., 137). In 1228 the abbey was made subject to Buildwas Abbey in England but judging by the names of its abbots it seems to have retained an Irish character throughout the Middle Ages (ibid., 137). At the Dissolution the abbey was apparently granted to Owen O Morrain of Multifarnham (Walsh 1957, 274-5) but in 1550 it was in the possession of Francis Digby, alias Ros MacEochacain (Morris 1861, 233). It passed through various hands until 1606 when it was granted to Sir Oliver Lambert (Erck 1846-52, 267-8). In this year Sir Oliver Lambert was granted 'the site and precinct of the late abbey of the B. V. Mary of Kilbeggan, in M'Geoghogans countrie, with the stone walls of a church and other buildings therein – 3 gardens, and a waste orchard, containing half an acre – a small chapel or church (WM038-017006-) belonging to the town of Kilbeggan, and to the parishioners of said monastery – a close to said monastery adjacent, containing 1a. – 3 messuages, 6 cottages, 60a. arable, standard measure, 16a. pasture, 6a. bog, in the town and fields of Kilbeggan – a water mill (WM038-017008-), near the town of Kilbeggan, upon the river Brassnagh (Brosnagh) – 2 eel-weares (WM038-017010-), 2 mess., 3 closes or cottages, 70a. arable, 30a. pasture and common of bog' (ibid., 268).

The terrier of the 1656-59 Down Survey map of Moycashel Barony recorded that in Kilbeggan there 'stood a faire Monastery' (NLI Ms. 723-724). In 1682 Piers (1981, 84) recorded that in Kilbeggan there 'stood a monastery dedicated to the Virgin Mary, founded anno 1200, and replenished with monks from the Cistercian abbey of Mellifont; of this abby [abbey] remains only the name of the structure, not so much as the rubbish to be seen this day, nor of the house built here by the late lord Lambert before the late war, more than the ruins; for it was burnt in the late war, and is not to this day repaired. In this town stands a church (WM038-017006-) in repair'. The Ordnance Survey Letters recorded that the abbey lay immediately north-west of the old burial ground (WM038-017002-) south of the town (WM038-017—). In 2003 the site of the Cistercian abbey was precisely located when a geophysical survey was carried out in an area to the W of the graveyard (WM038-017002-). The geophysical survey carried out by GeoArc Ltd revealed the sub-surface ground plan or footprint of the levelled Cistercian abbey. The abbey appears to have been built around an early medieval monastery (WM038-017001-), which is still in use as a graveyard (WM038-017002-) (Hayden 2006, 522). A resistivity survey of the field to the W of the old graveyard (WM038-017002-) revealed the ground plan of the Cistercian abbey which consisted of a long rectangular church of cruciform plan with cloister and claustral building range to the S of the church.

Since the cable route traverses the Zone of Archaeological Potential (ZAP) for Kilbeggan Town (Figure 13-18) mitigation measures are discussed below in Section 13.4.2.5.

13.3.3.2.7 **OF009-005029 Redundant Record**

Limited archaeological investigations were undertaken by Tracy Collins of Aegis Archaeology Ltd. under licence No. E3161 at Durrow as part of the ongoing conservation works at the National Monument on behalf of the OPW (Collins 2009, 449). Four trenches were excavated to the south of the entrance lodge, which is outside the ZAP for the archaeological complex, in advance of proposed facilities for a visitor centre, by mini-digger fitted with a flat bucket. All trenches were orientated east-west, measuring 20m by 1.5m in width. All were dug to an average of 0.15m in depth. The topsoil in this location was very dark and humic, given the nature of the location, which is surrounded by trees. The natural parent material was a grey gravelly clay and was revealed in all of the trenches. Nothing of an archaeological nature was found at this location (Collins 2010, 402) (Figure 13-16).

13.3.3.2.8 **OF017-038 Metal Working Site**

New monument described as Ardan 3, excavated by Linda Hegarty, Headland Archaeology Ltd in 2006 in advance of the proposed N52 Tullamore bypass national road scheme, was located c. 2km north of Tullamore. The land comprised gently undulating farmland immediately to the east of the N52, which was under pasture at the time of testing.

The site was covered by mid-brown silty sand topsoil with an average depth of 0.4m. This contained moderate amounts of small and medium mixed stones. The glacial till in this area consisted of a yellowish-orange coarse gravelly sand that included small stones, medium boulders and sub-rounded cobble-sized stones. Two small cut features were identified in the centreline trench c. 10m north-east of offset T3. One of the features was truncated by a modern field drain. An area of 10m north-east/south-west by 8m was opened around the features, but no further archaeological deposits were identified. The larger of the two features, Context 04, was circular with vertical sides and a slightly concave base. The feature measured 0.35m in diameter and 0.19m deep. There was no evidence of in situ burning around the edges of the cut. It was filled with a firm greyish-brown sandy silt with occasional flecks and fragments of charcoal and occasional pieces of ferrous slag. No artefacts were recovered and the deposit was sampled for future environmental analysis. Context 06 was c. 0.35m east of Context 04. It was truncated on its eastern edge by a modern field drain. Consequently its full extent could not be determined, but the feature survived to a diameter of 0.25m and a depth of 0.1m. It was circular with vertical sides and an irregular base. Context 06 was filled with a firm black/brown sandy silt with occasional inclusions of charcoal flecks and fragments, and occasional pieces of ferrous slag. No artefacts were recovered and the deposit was sampled for future environmental analysis (Bennett 2009, 447) (Figure 13-19)

13.3.3.2.9

OF017-039 Metal Working Site

New monument described as Ballynasrah 1, excavated by Tom Janes of Headland Archaeology Ltd in advance of the proposed N52 Tullamore bypass national road scheme, was located c. 1.5km north of Tullamore in gently undulating farmland that was under pasture at the time of testing. Two small circular pits with evidence of in situ burning were identified in offset T8 on the eastern edge of the CPO corridor. An area of 17m north-south by 9m was opened around the features, but no further archaeological deposits were identified. The larger of the two pits (Context 03) was subcircular in plan with steeply sloping sides; the base tapered to a blunt point broadly kidney-shaped in plan. It measured 0.4m north-east/south-west by 0.3m and was 0.4m deep. The sides of the cut displayed evidence of in situ burning; the natural geology through which the pit was cut was fire-reddened to a thickness of c. 0.03m. The feature had two fills. The upper fill comprised a compact yellow/orange burnt sandy clay, with moderate inclusions of charcoal flecks and fragments. This layer was 0.11m deep and sealed the basal fill, a loose charcoal-rich brownish-black sandy silt with frequent inclusions of charcoal flecks and fragments, moderate pieces of burnt clay and moderate small, medium and large pieces of ferrous slag. This layer was 0.29m deep. No diagnostic artefacts were recovered from either layer, but both contexts were sampled for future environmental analysis. The second pit (Context 05) was 0.2m south-west of Context 03. It was circular with steep sides and a concave base; it measured 0.29m in diameter and 0.13m deep. There was also evidence of in situ burning around the edges of the cut; the natural geology was fire-reddened to a thickness of 0.02m. Context 05 was filled with a charcoal-rich sandy silt from which frequent inclusions of ferrous slag were recovered. Moderate amounts of burnt clay were also noted and sampled for environmental analysis. No other archaeological deposits were identified in the extended area around the feature or in neighbouring test-trenches (Bennett 2009, 447-8) (Figure 13-19).

13.3.3.2.10

OF017-037 Charcoal Making site

New monument described as Ardan 1, that was excavated by Linda Hegarty of Headland Archaeology Ltd, in December 2006 in advance of the proposed N52 Tullamore bypass national road scheme, that is located c. 0.5km north of Tullamore. The land comprises gently undulating farmland on a gentle south-facing slope, which was under pasture at the time of testing.

The site was covered by mid-brown silty sand topsoil with an average depth of 0.5m. This contained moderate amounts of small and medium mixed stones. The glacial till in this area consisted of a grey, coarse gravelly sand, which included small stones, medium boulders and sub-rounded, cobble-sized stones. A spread of charcoal-rich sandy silt and heat-shattered stone (Context 03) was identified in the centre-line trench and offset trench T1. A figure-of-eight-shaped pit (Context 06) and a linear ditch (Context 08) were identified c. 8m north of the burnt spread. Context 03 comprised an irregular spread, 0.11m deep, of charcoal-rich sandy silt with frequent inclusions of small and medium heat-shattered and fire-reddened stone. It measured 16.5m east-west by 3.2m within T1. Offset T1 was widened to 4m in order to define the northernmost extent of the spread. Immediately south of, and parallel to, T1 was the current field boundary. This comprised a low bank and a V-shaped ditch heavily overgrown with brambles. The boundary was c. 5m wide. Test-trenching on the southern side of this boundary identified no archaeological deposits. It is likely that the construction of this field boundary has truncated the southernmost edge of the burnt spread. A linear feature was noted c. 1m west of Context 03; this feature was also identified in offset T2a (Context 08). Offset T2a was widened to 6m in order to determine the full extent of Context 06. This comprised a figure-of-eight-shaped pit initially identified in the centre-line trench c. 8m north of the burnt spread Context 03. A small section excavated at its south-western edge revealed it to be 0.3m deep. The feature measured a total of 4m east-west by a maximum of 2m. The western end of the figure-of-eight measured 2m in diameter, it narrowed to 0.8m for a length of 0.6m before widening at the eastern end to 2m north-south by 1.5m. A single fill was noted (Context 07) comprising a homogenous mid-brown silty clay with moderate charcoal flecks and occasional charcoal fragments. The charcoal was more prevalent towards the base of the feature. The linear feature (Context 08) was noted c. 3m west of Context 06. Within T2a it was oriented north-east/south-west for a distance of 8m before turning 90° to the south-east. It continued for a further 2m within T2a and was noted in T1, 8m to the south. It continued across T1 and is likely to

be truncated by the construction of the existing field boundary. The north-eastern continuation was observed in the centre-line but not in offset T3, giving the feature a potential total length of c. 45m; it was an average of 1.7m wide. A section through Context 08 revealed it to be 0.45m deep; it was filled with a firm mid-brown silty clay with occasional charcoal flecks and fragments. Approximately 35m north of Ardan 1, in offset T4, two small shallow spreads of charcoal-flecked material were identified. The northernmost of these (Context 05) was 0.95m north-south by 0.6m and was 0.08m deep. It comprised a spread of small heat-shattered and fire-reddened stones, fragments of burnt clay and charcoal flecks. There was evidence of in situ burning in the form of heat-affected natural beneath the feature. The second spread (Context 04) was 0.6m south-west of Context 05. This was 0.56m north-south by 0.3m and 0.03m deep. It comprised a spread of charcoal-rich sandy silt and occasional small fragments of heat-shattered stone. Approximately 50% of the deposit was sampled for environmental analysis. An area of c. 25m² was opened around these features, but no further archaeological deposits were identified. No artefacts were recovered from either feature, both of which were fully excavated during test excavation works (Bennett 2009, 446-7).

Extra testing of Ardan I by Liam McKinstry, Headland Archaeology Ltd, under licence No. A033; E2493 in October 2007 in advance of the proposed N52 Tullamore bypass national road scheme, was located approximately 2km north of Tullamore town centre, in an area dominated by esker ridges. Prior to the completion of the CPO fence line and site clearance the area was used primarily as rough grazing for sheep and cattle. Due to the topography of the area the test-trenching array was restricted to the low areas in between the esker ridges. Testing towards the southern end of the ridges revealed a subcircular shallow pit with a diameter of 1.6m and a depth of 0.16m. There were two fills to the pit, a charcoal-rich silty sand which formed the basal fill of the pit and a mid-blackish-grey ashy deposit. A sample was taken from the primary fill and will be used to date the feature and identify the species of tree used to produce charcoal at this location (Bennett 2010, 393-4) (Figure 13-19).

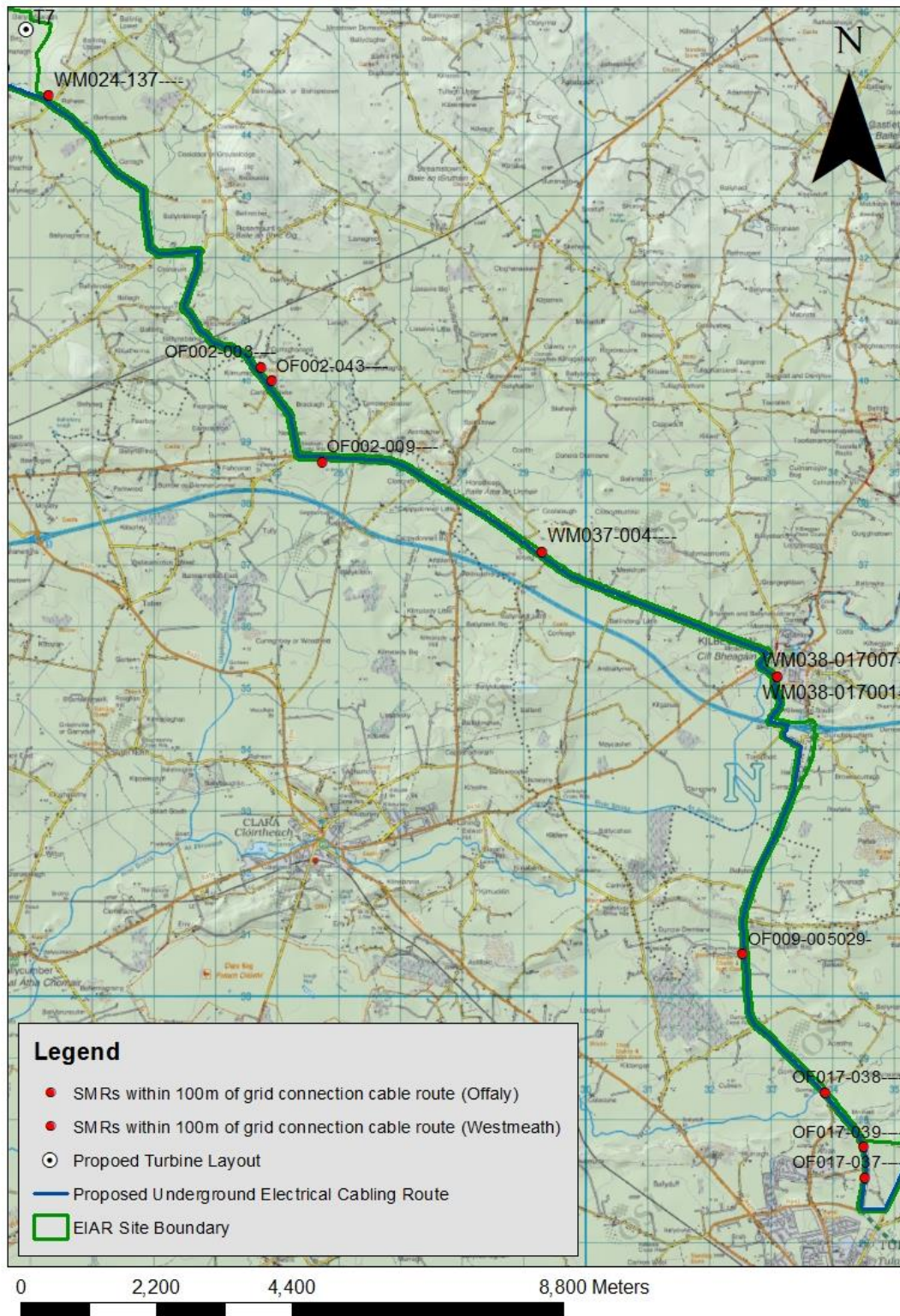


Figure 13-12: SMRs within 100m of the Grid Connection underground electrical cabling route



Figure 13-13: WM024-137 within 100m of the underground electrical cabling route



Figure 13-14: OF002-003 and 043 within 100m of the underground electrical cabling route



Figure 13-15: OF002-009 within 100m of the underground electrical cabling route

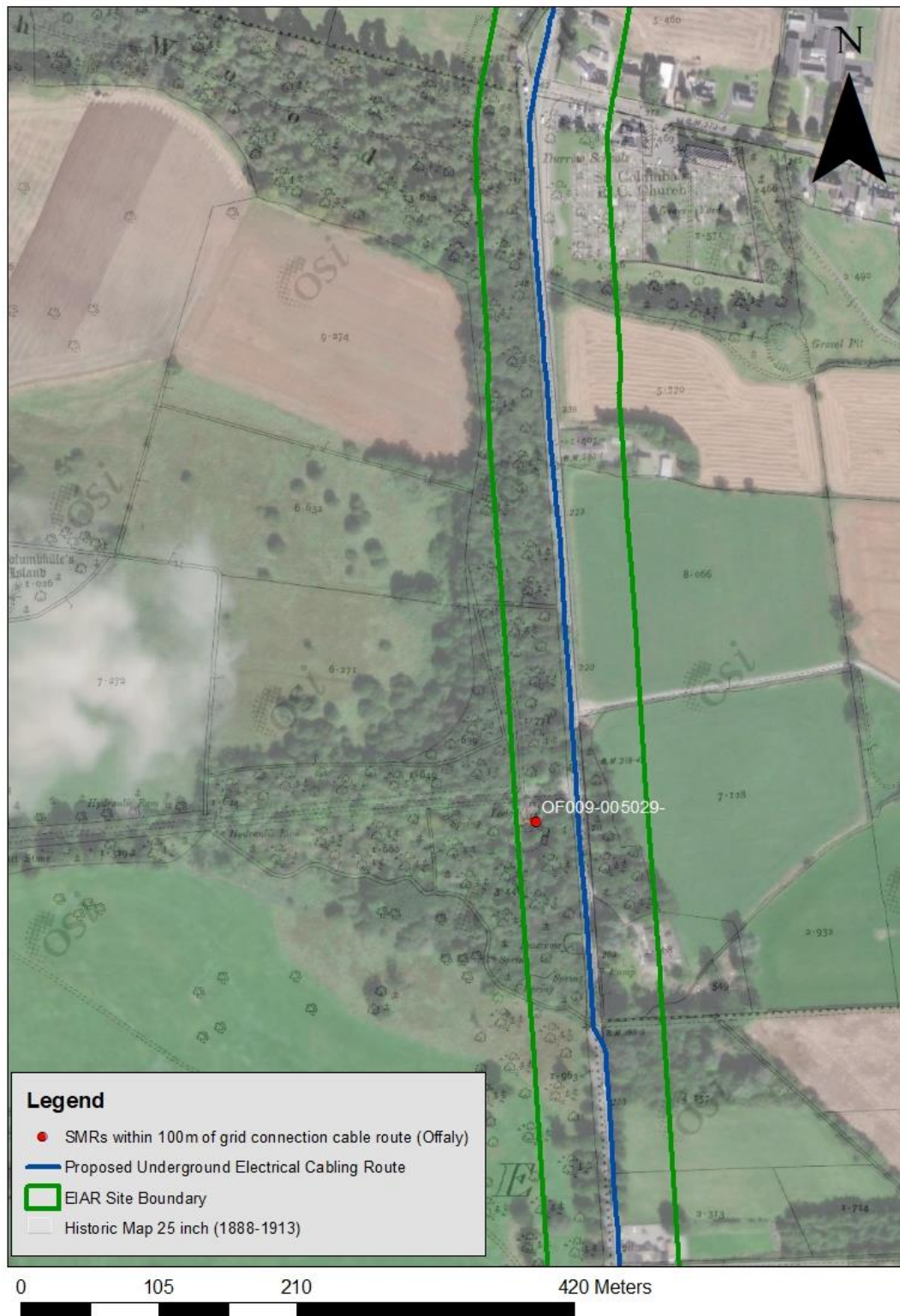


Figure 13-16: OF009-005029 within 100m of the underground electrical cabling route

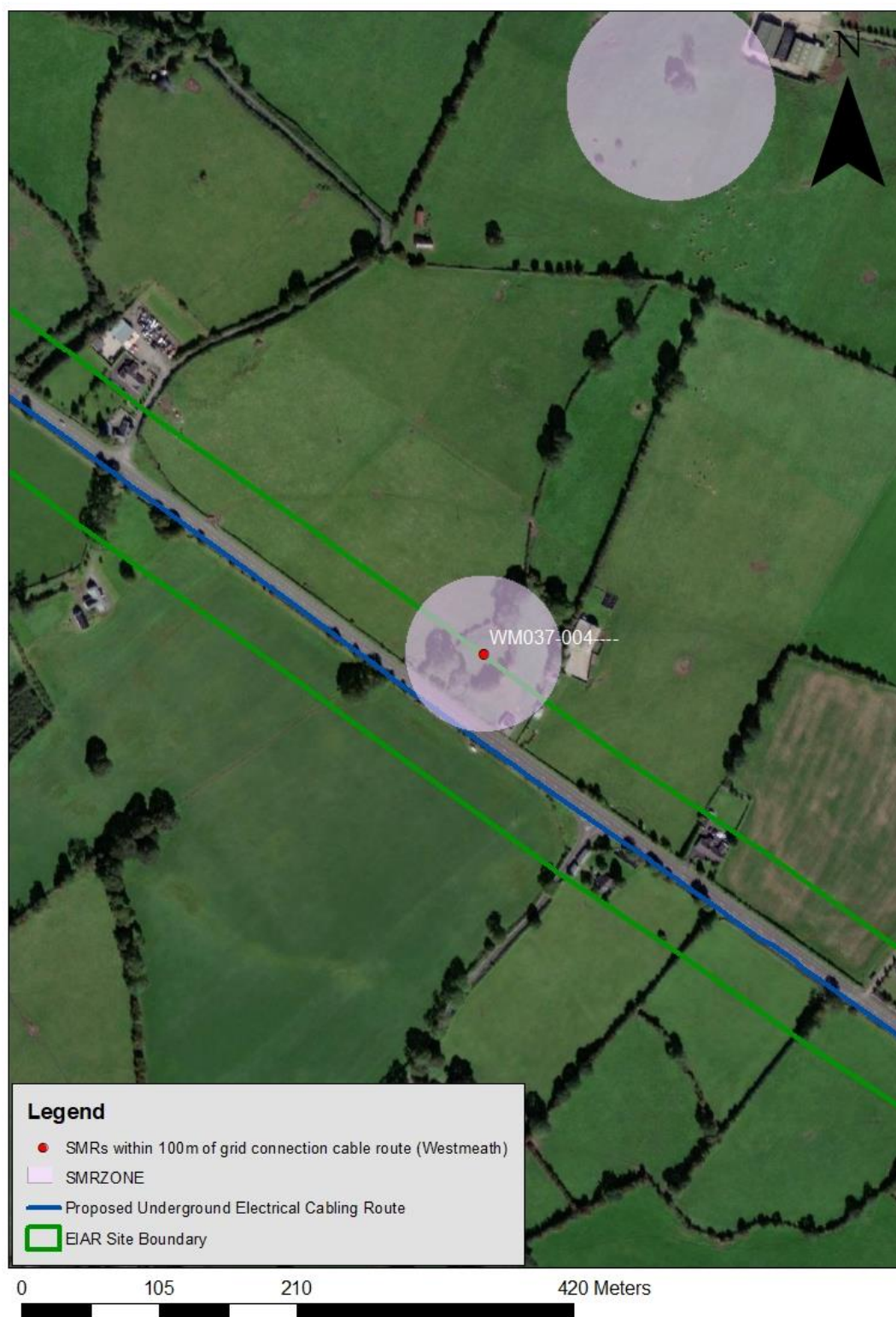


Figure 13-17: WM037-004 within 100m of the underground electrical cabling route

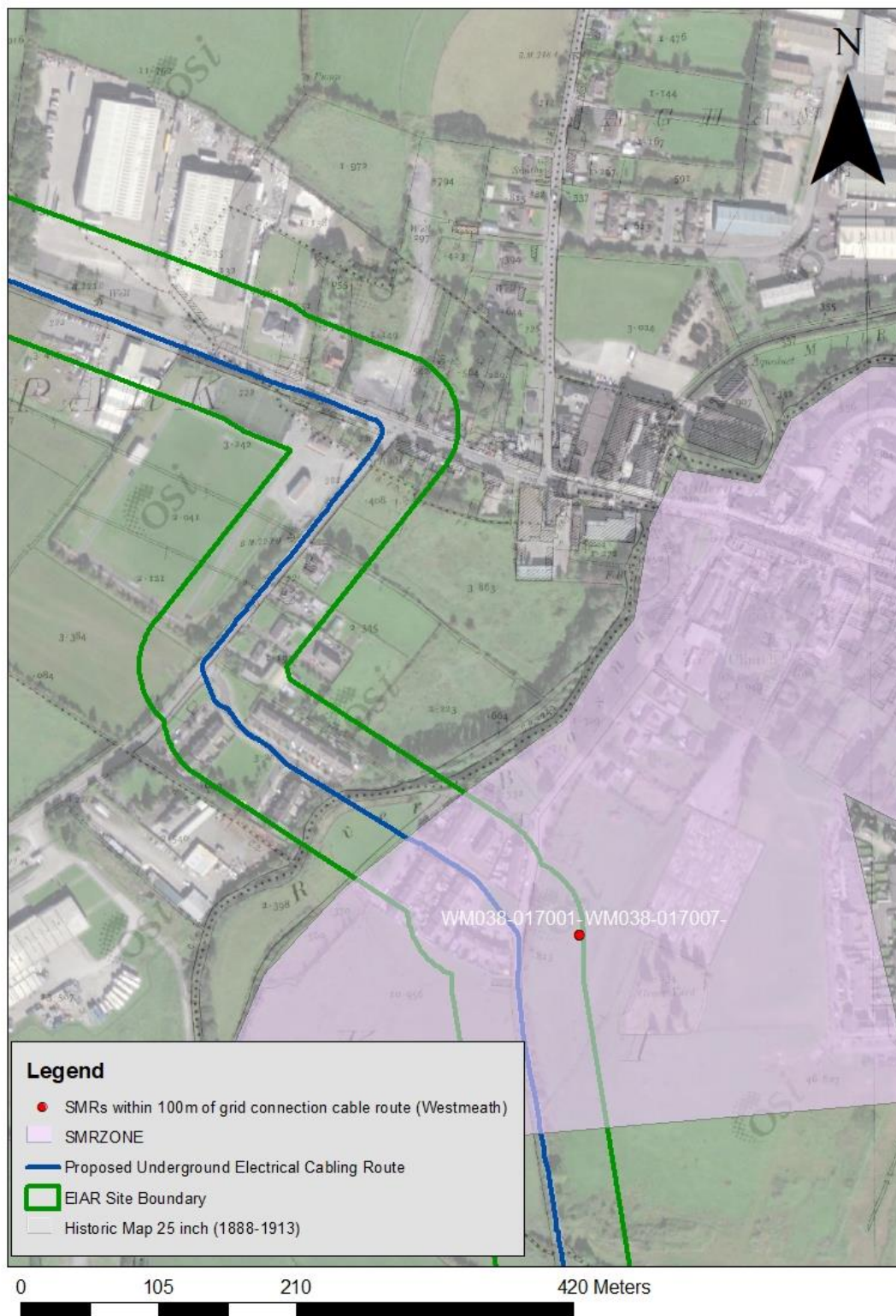


Figure 13-18: WM038-017 within 100m of the underground electrical cabling route

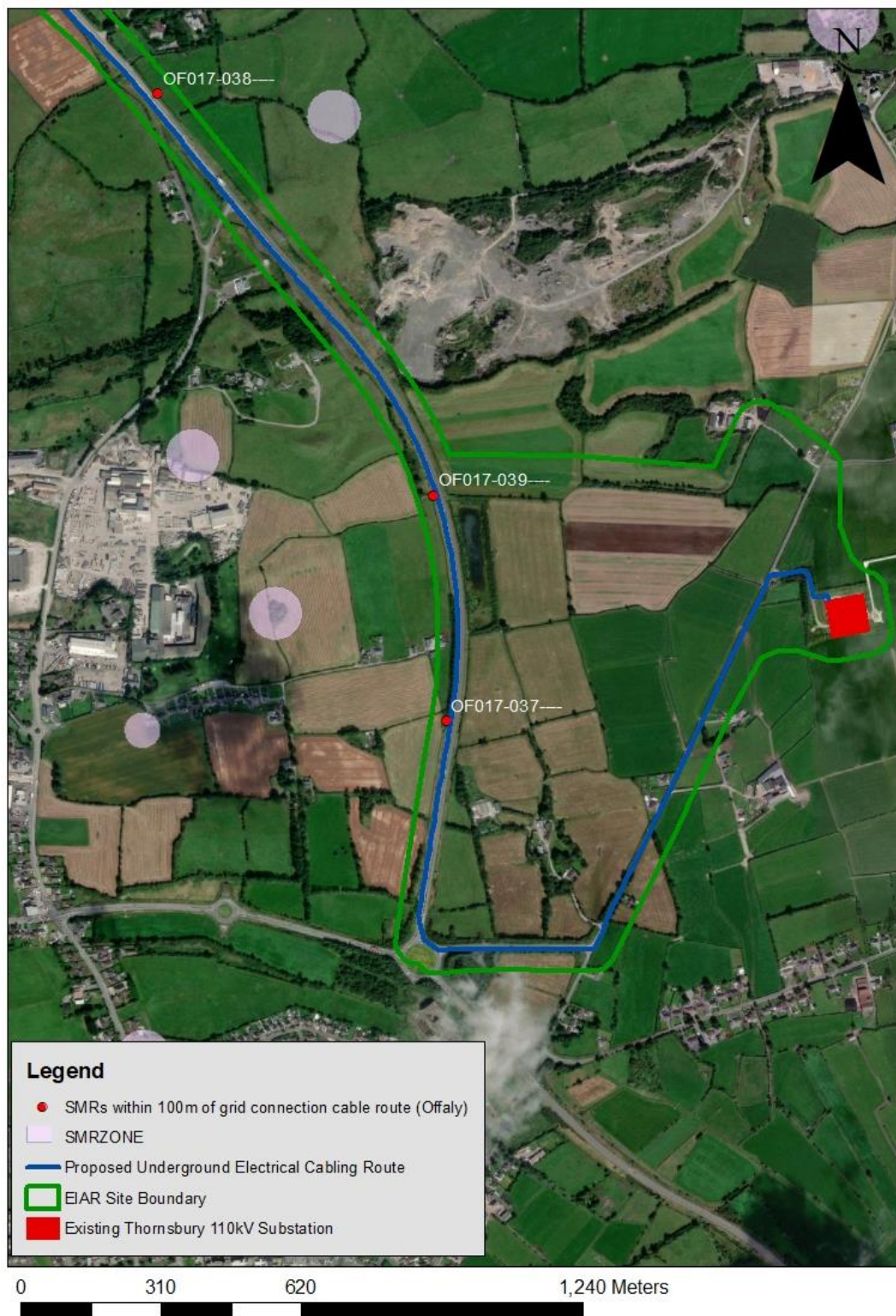


Figure 13-19: OF017-037 – 039 (excavated) within 100m of the underground electrical cabling route.

13.3.3.3 Protected Structures

A photographic record of the Grid Connection underground electrical cabling route is presented in Section 13.3.1.1.12. Twelve RPS structures are located within 100m of either side of the underground electrical cabling route and these are presented in Table 13-11 below. The structures are shown on Figure 13-20.

Impacts and Mitigation measures are detailed in Section 13.4.2.5.

Table 13-11: RPS within 100m of the underground electrical cabling route.

RPS NO.	NIAH REF	Structure	Townland	ITM E	ITM N	Distance to Grid	Comments
024-017	15402401	Foxe's Shop	Raheen	621270	744489	Roadside	On Private Property
031-002	15403103	St. Thomas' Roman Catholic church	Ballybrickoge	623712	741808	Roadside	
031-003	N/A	Rosemount National School	Ballybrickoge	623591	741689	Roadside	Removed from NIAH Records
031-004	15403105	Bridge	Kilcumreragh	623846	740703	Roadside	
037-004	15403710	Belfry, SS Peter and Paul's Roman Catholic church	Kilbeg	628057	738081	Roadside	
038-064	15403808	Milestone	Ballinderry Big	631258	736235	Roadside	
031-019	15403124	Water pump	Ballybrickoge	623682	742117	Roadside	
038-001	N/A	Water hydrant	Meadowpark	632962	735597	Roadside 61m	Not on NIAH Records
038-002	15321002	House	Meadowpark	632982	735566	Roadside 92m	
13-6	14909008	Durrow Abbey House		632490	730722	Roadside 35m	
13-3	14909005	Saint Columba's Church of Ireland Church		632758	729614	Roadside 82m	

RPS NO.	NIAH REF	Structure	Townland	ITM E	ITM N	Distance to Grid	Comments
13-5	14909007	Post box		632580	731244	Roadside 92m	

13.3.3.3.1 **RPS 024-017 (NIAH 15402401)**

Detached five-bay two-storey house and shop - Foxe's Shop (See Plate 13-1 above).

13.3.3.3.2 **RPS 031-002 (NIAH 15403103)**

Freestanding Roman Catholic church, built c.1850. Comprises six-bay nave with an attached four-stage tower on square-plan to west having octagonal corner turrets rising to form pinnacles. Entrance front flanked to north and south by two-storey vestibule (See Plate 13-58).

13.3.3.3.3 **RPS 031-003**

Detached multi-bay single-storey national school, built in 1934 and extended c.1960. Pitched natural slate roof with two rendered chimneystacks and cast-iron rainwater goods. Roughcast rendered walls over smooth rendered plinth. Square-headed window open.

13.3.3.3.4 **RPS 031-004 (NIAH 15403105)**

Single-arched railway bridge, built c.1851, carrying former Midland Great Western Railway Mullingar to Galway line over road. No longer in active use. Constructed of rusticated limestone with elongated rock-faced voussoirs to arch and ashlar limestone copping over parapet. Ashlar limestone string course at springing point of arch. Located to the south of Rosemount and to the east of Moate.

A robust and elegantly-appointed railway bridge representing an important element of the transport and civil engineering heritage of County Westmeath. This bridge was originally built by the Midland and Great Western Railway Company to serve the Mullingar to Galway line, which opened in 1851 and closed in 1987. This bridge is one of a number of similar bridges in the area associated with this company. This bridge is well-built using rusticated local limestone, a typical feature of mid nineteenth-century engineering projects of this nature. The elongated voussoirs to the arch are a distinctive feature. This bridge is an appealing feature in the landscape to the east of Moate (See Plate 13-59 above).

13.3.3.3.5 **RPS 037-004 (NIAH 15403710)**

Freestanding wrought-iron belfry, erected c.1820. Pitched slate roof supported on metal framework with timber louvered vents to side walls at high level, surrounding cast-iron church bell. Mounted on concrete platform located in prominent position (See Plate 13-62 above).

13.3.3.3.6 **RPS 038-064 (NIAH 15403808)**

Freestanding limestone milestone on rectangular plan having pyramidal top, erected c.1780, with 'Moate' and 'Kilbeggan' carved onto appropriate faces. Mileage now illegible. Benchmark incised to top, c.1830. Located a short distance to the west (See Plate 13-63 above).

13.3.3.3.7 **RPS 031-019 (NIAH 15403124)**

Freestanding cast-iron water pump, erected c.1885, comprising banded cylindrical shaft with fluted head having fluted spout and having a fluted ogee-dome cap with finial over. Original handle now missing. Set in a rubble limestone enclosure (See Plate 13-57 above).

13.3.3.3.8

RPS 038-001

Freestanding cast-iron water hydrant, erected c.1890, comprising fluted shaft on moulded base with moulded spout over. Cap now missing. Horizontal pull lever to side. Set in concrete platform with drain to front. Located to the west end of Kilbeggan.

13.3.3.3.9

RPS 038-002 (NIAH 15321002)

Semi-detached three-bay single-storey local authority house with dormer attic, built c.1900, now vacant. One of a pair with the building to the east. Pitched natural slate roof with brick chimneystack and cast-iron rainwater goods. Roughcast rendered walls over smooth rendered plinth. Gable-fronted dormer window with pitched natural slate roof to facade having a square-headed opening with two-over-two pane timber sliding sash window. Square-headed window openings to rest of structure with stone sills and two-over-two pane timber sliding sash windows. Projecting gabled fronted entrance porch to western-most bay with pitched natural slate roof and simple bargeboard. Square-headed door opening with timber door. Fronting onto footpath at road edge to west-end of Kilbeggan.

An attractive, well-built, modest-scale house which retains its early form and fabric. It is the best surviving example of a pair of houses, the other having been modernised in recent years. It was originally constructed as part of an extensive scheme of social housing at the end of the nineteenth/early twentieth-century. This was a time when many houses of this type were being built throughout Ireland, by the various local authorities, following the passing of various Labourers' Acts by the British Parliament. These houses were usually built to a high architectural standard and it is rare to find an example in such good condition. This structure is very similar in form to a number of social housing schemes on the outskirts of Mullingar, notably at Springfield Cottages, near Dublin Bridge. This appealing structure remains an interesting reminder of a phase of Irish architectural history and is an important part of the architectural heritage of Westmeath. This building is very similar in form to those found at Springfield Cottages, Mullingar.



Plate 13-77: RPS 38-02 (Courtesy of NIAH).

13.3.3.3.10 **RPS 13-6 (NIAH 14909008)**

Detached T-plan three-bay single-storey gate lodge, built c.1840 with return to rear. Not in use. Set within grounds of Durrow Demesne. Pitched slate roof with terracotta ridge tiles, ashlar chimneystacks, coping and cast-iron rainwater goods. Triple-light timber windows with limestone hoodmoulding. Square-headed door opening in north projection with timber panelled door and limestone hoodmoulding. Plaque with crown and fleur-de-lis on north projection gable wall and hoodmoulding. Yellow brick pitched roofed return to rear. Palladian style wrought-iron gateway to east, set on ashlar limestone plinth with carriage arch and pedestrian gates to centre. Finely executed stone masonry and metal working are displayed at this site, testament to the skilled craftsmanship available at the time. This high quality construction of the lodge and gates indicate the importance of the house to which they belong; an outward display of sophistication and wealth to all who call to Durrow Abbey House.



Plate 13-78: RPS 13-6 (image courtesy of NIAH).

13.3.3.3.11 **RPS 13-3 (NIAH 14909005)**

Detached cruciform former Church of Ireland church, built in 1881, with entrance porch to south-east. Pitched slate roof with limestone ridge cresting, spired limestone bellcote to south-west, roof vent, wrought-iron finials and limestone dentils to eaves course. Rock-faced limestone walls with tooled quoins and buttresses. Three-light lancet windows with tooled limestone surrounds and stained glass. Recessed pointed-arched doorway with tooled limestone surround to double timber battened door. Set within its own grounds. Front of site bounded by random coursed limestone wall with dog tooth capping and blocked gate piers with cast-iron gates.

Built in 1881, the congregation of this church was moved here from Saint Columbkille's Church in the grounds of Durrow Demesne. Its finely executed cut stone has been excellently conserved along with surviving stained glass, bellcote, dentils and ridge cresting. The abundance of surviving original features contribute the elegant design of the exterior of this church. It was sold in 1993 and is now a private residence.



Plate 13-79: RPS13-6 (image courtesy of NIAH)

13.3.3.3.12 **RPS 13-5 (NIAH 14909007)**

Wall-mounted cast-iron post box, c.1915, with GR royal cipher with crown motif to top and SE emblem to base. Mounted in random coursed limestone wall to side of road west of Saint Columba's Catholic Church. Maker's mark 'W.T. Allen & Co. London' to base. The cast-iron post box is significant in terms of the combination of the emblems: the royal cipher identifies the reign of George V (1910-1921) and the Saorstát Éireann represents the Irish Free State following 1921. The London firm of founders, W.T. Allen & Co., was in operation from 1881-1955.



Plate 13-80: Image courtesy of NIAH of RPS 13-5.

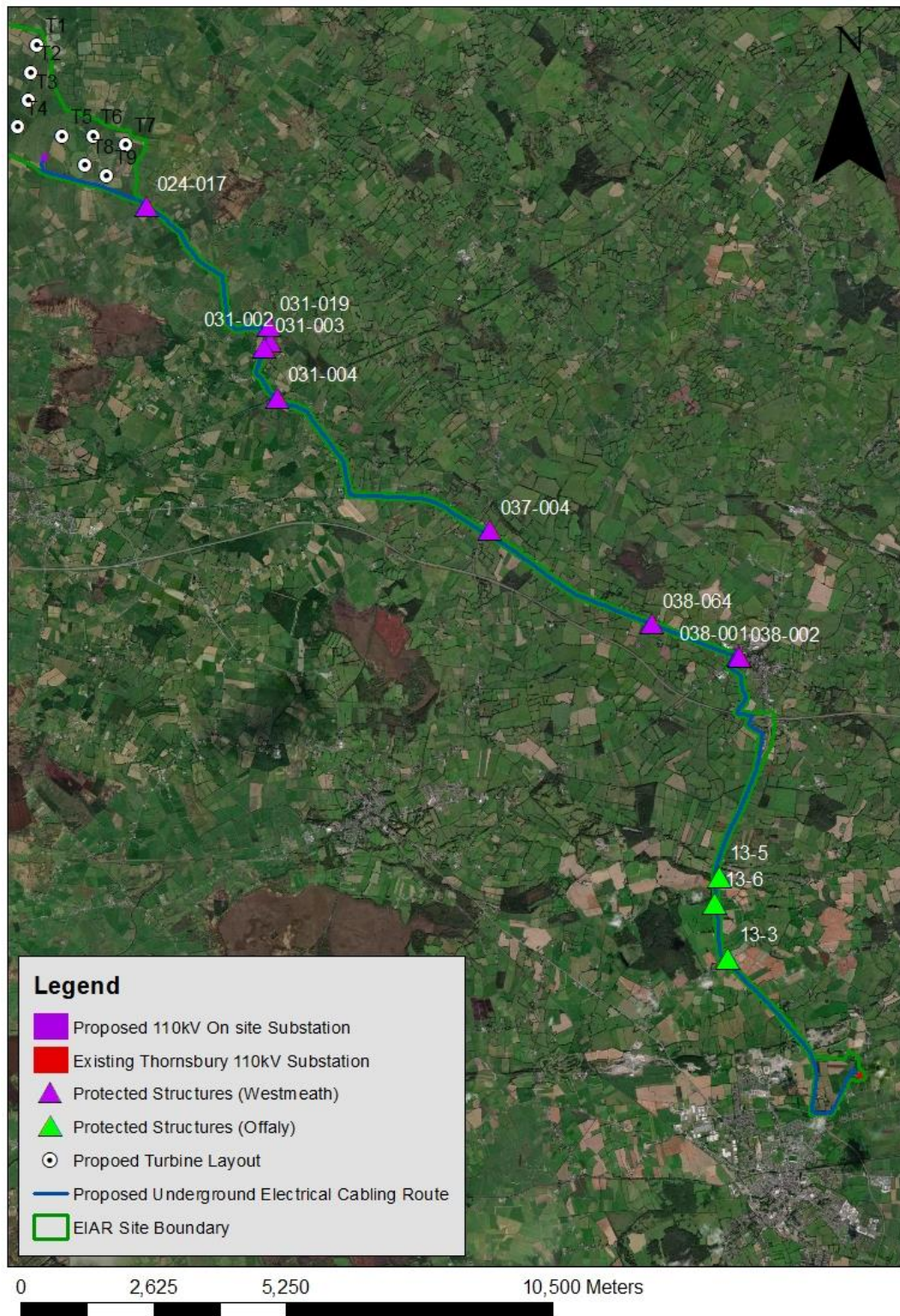


Figure 13-20: RPS structures within 100m of the proposed underground electrical cabling route

13.3.3.4 NIAH

Largely the Record of Protected Structures is based on the NIAH and some of the aforementioned RPS structures above are also NIAH structures. Some NIAH structures however do not have RPS status and therefore to avoid repetition, only NIAH structures within 100m of the Grid Connection underground electrical cabling route which have not been included above are dealt with here.

Five NIAH structures within the 100m study area do not have RPS status (all in County Westmeath). These are presented in Table 13-12 below.

Table 13-12: NIAH structures (which are not RPS structures) located within 100m of the underground electrical cabling route.

NIAH REF	Structure	Townland	ITM X	ITM Y	Distance to Grid	Comments
15403106	house	Kilcumreragh	623872	740641	17m at roadside	
15403107	outbuilding	Kilcumreragh	623837	740644	43m	
15403108	house	Kilcumreragh	624376	740485	Roadside	No longer on NIAH records – removed.
15403711	house	Kilbeg	627860	738084	Roadside	
15403712	gates/railings/walls	Meeldrum	630310	736607	Roadside	

13.3.3.4.1 15403106 house

Detached four-bay two-storey vernacular house, built c.1800 and extended c.1860. Pitched natural slate roof (large slates) with overhanging eaves, projecting eaves course, cast-iron rainwater goods, two rendered chimneystacks and a raised rendered verge to the north end. Roughcast rendered walls over smooth rendered plinth with raised quoins to the corners. Square-headed window openings with two-over-two pane timber sliding sash windows. Wrought-iron security bars to ground floor openings. Square-headed doorcase to front façade (east) having glazed timber door with overlight above. Set back from road with rendered boundary wall to road frontage having roughly cut stone coping over. Main entrance gates to the east comprising a pair of rendered gate piers, on square plan with cut stone pyramidal capstones over, supporting wrought-iron bar gates. Located to the north of a former corn mill (15403107) and to the extreme south of Westmeath adjacent to border with County Offaly. Outbuilding to the rear (west).

A particularly fine example of an extended vernacular house, retaining its early form and character. This highly appealing structure has the appearance of a subtly gentrified farmhouse and retains all its early fabric. The position of this building, located to the north of the remains of a former corn mill (15403107), suggests that it may have been originally built by the owner of this mill. The position of the chimneystacks indicates that this building was extended to the south by one bay at some stage, possibly during the mid-to-late nineteenth-century. The diminishing size of the window openings towards the eaves hints at a late eighteenth-century date. The good quality boundary walls and traditional wrought-iron bar gates to the west and the outbuilding to the rear completes this fine composition, which is one of the best examples of its type still extant within County Westmeath. The very well-maintained gardens perfectly compliment this picturesque site.



Plate 13-81: NIAH 15403106 house (courtesy of NIAH).

13.3.3.4.2 **15403107 outbuilding**

Detached two-storey former corn mill having a single-storey section to the south, built c.1800. Now out of use and derelict. Pitched natural slate roof with projecting eaves course. Rendered finish to walls, now failing an exposing rubble limestone construction beneath. Square-headed doorcases having timber sheeted doors. Flight of steps to the east gable gives access to south building. Located to the south of Westmeath adjacent to the border with Co. Offaly. Former mill race runs north to south to the west.

A typical small rural corn mill and associated corn kiln, which retains its early form and character. This complex probably dates to the late eighteenth/early nineteenth-century, a period in which there was a great boom in the Irish milling industry. Although this complex is now derelict, it remains an important physical reminder of this prosperity and remains an integral element of the industrial and economic history of the area. This mill retains much of its early form despite being out of use since c.1900 (indicated as ‘disused’ on map c.1914). Its location within the grounds of a two-storey vernacular house (15403106), suggests that this mill was built and owned by the occupants of this house. A corn kiln stood to the west of this mill but is now no longer extant.



Plate 13-82: 15403107 outbuildings (image courtesy of NIAH).

13.3.3.4.3 **15403108 house**

Originally on the NIAH mapping but now no record on the National Inventory of Architectural Heritage.

13.3.3.4.4 **15403711 house**

Detached five-bay two-storey house/post office, built c.1830, having a timber shopfront attached to the west end, c.1900. Pitched slate roof with three rendered chimneystacks and uPVC rainwater goods. Wet dash rendered walls over smooth rendered plinth and raised rendered block quoins to the corners. Square-headed window openings with cut stone sills and rendered reveals having one-over-one pane timber sash windows. Square-headed door opening with rendered jambs, plain glass overlight and replacement glazed timber door. Limestone step to road. Square-headed window opening to shopfront having rendered stallriser with three fixed pane windows with timber mullions over. Square-headed door opening to the west side of shopfront having plain glass overlight and original timber double doors. Shopfront to east end comprising pilasters (with inset panels) with console brackets over supporting timber fascia having moulded timber cornice over with dentil blocks. Simple script to fascia reading “HORSELEAP POST OFFICE”. Road fronted to the south of the main Dublin to Galway road.

A charming, if simple, two-storey building of early-nineteenth date, which retains much of its early character, form and fabric, including timber sliding sash windows. Of particular note is very good quality and finely-detailed traditional timber shopfront to the west end, which is an excellent example of its type and is an increasingly rare survival. This post office is located adjacent to the former late eighteenth-century mail coach road between Dublin and Galway and may be a very early example of a provincial post office, which started to be built in Ireland from the 1830s. The existing shopfront is probably of late nineteenth-century date and is based on a simplification of the classical formula of columns and entablature. This appealing structure is a notable feature along the main Dublin to Galway road and is a worthy addition to the built heritage of Westmeath.



Plate 13-83: NIAH 15403711

13.3.3.4.5 **15403712 gates/railings/walls**

Field gates, erected c.1860, comprising a pair of rendered gate piers, on square-plan having cut stone capstones, supporting a pair of wrought-iron double gates with decorative finials and curled clasps. Located to the southeast of Horseleap, adjacent to main Dublin to Galway road and to the south of Meldrum House (15403701).

An appealing pair of decorative pair of vernacular wrought-iron double gates, which form an unusually fine entrance to a field/agricultural land. These wrought-iron gates are very similar in appearance to a pair located to the south (15403709), suggesting that they may have being crafted by the same hand and, perhaps, gave access to land in the same ownership. These simple gates and piers are an appealing feature in the rural landscape to the southeast of Horseleap, adding attractive incident along the main Dublin to Galway road.



Plate 13-84: 15403712 (Image for NIAH)

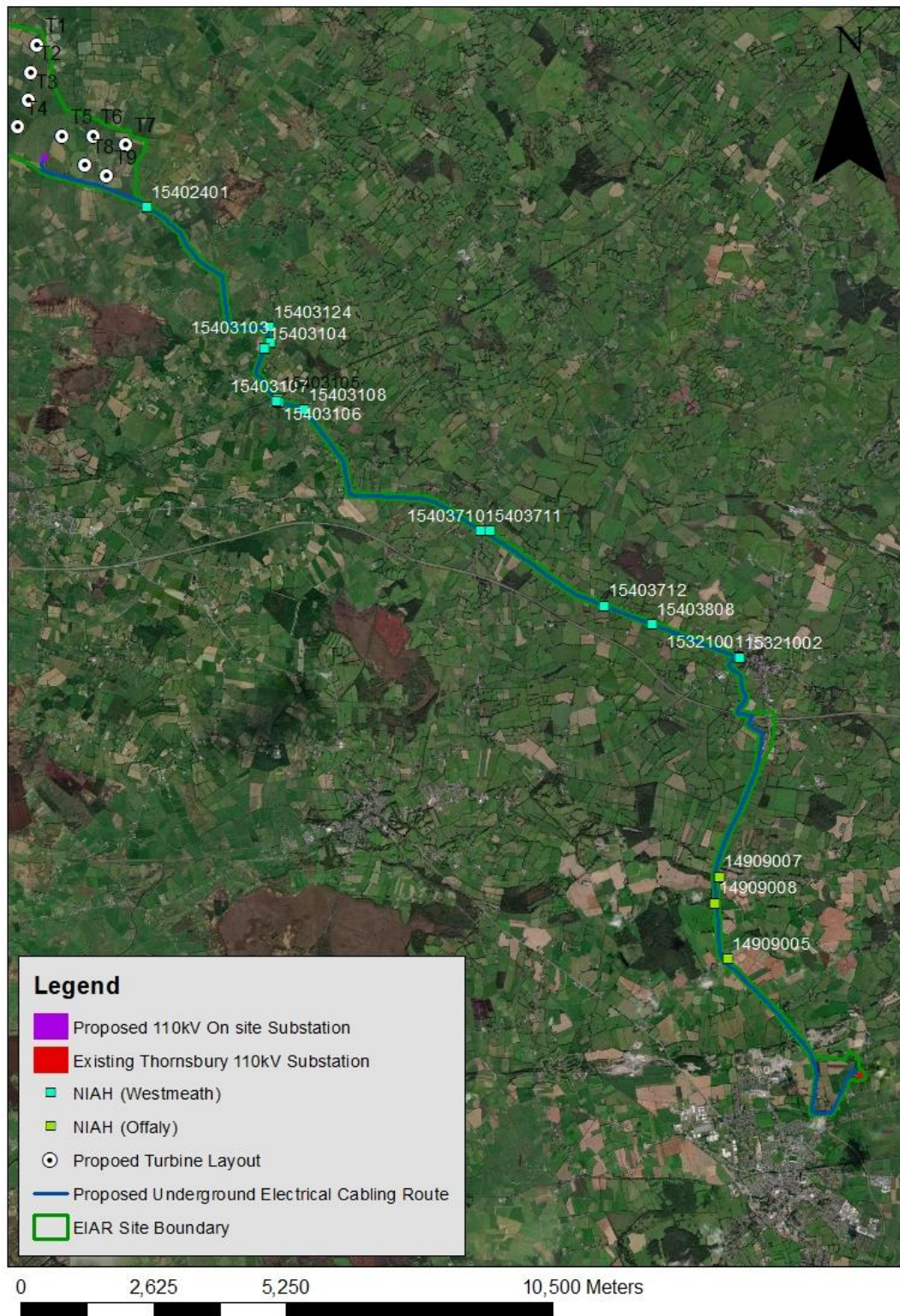


Figure 13-21: All NIAH structures located within 100m of the proposed underground electrical cabling route.

13.3.4 Proposed Turbine Delivery Route

It is proposed to access the Wind Farm Site via an existing agricultural site entrance off the L5363 local road to the west of the Site. This entrance will be widened to facilitate the delivery of the construction materials and turbine components. The proposed works will result in a permanent upgrade of this current Site access from the L5363 local road, which will also form the Site entrance to the Wind Farm Site during the operational phase.

It is proposed that large wind turbine components will be delivered to the Wind Farm Site, from Galway Port, via the M6 National Road (other ports such as Shannon Port or Dublin Port could also be used). The proposed turbine transport route from the M6 National Road to the Wind Farm Site via the N6, N55 and R390 is shown on Figure 4-19 in Chapter 4 of this EIAR. From the N6, the turbines will be transported northeast along the N55 for approximately 2.7km, before turning east onto the R390 Regional Road. The route continues along the R390 Regional Road for 13.5km before turning south onto the L5363 local road where the route continues south along this road for approximately 1km before turning east into the Wind Farm Site entrance.

As detailed in Section 4.4.2.2 in Chapter 4 of this EIAR, there are sections on the route where the vertical alignment may require specialist transport vehicles. These sections will be further considered by the appointed transport company following turbine procurement process. Accommodation works will be required at various locations on the national and regional road network between the port of arrival and the Wind Farm Site. These will be limited to temporary measures including temporary local road widening, overruns of roundabout island and temporary relocation of some signs and street furniture.

13.4 Likely Effects and Associated Mitigation Measures

13.4.1 Construction Phase Potential Impacts (Indirect)

Indirect effects, in terms of archaeology, architectural and cultural heritage are considered to be those effects which happen away from ‘the Site’. This includes impacts on visual setting of any cultural heritage assets in the wider landscape. Since these effects are only possible once development is operational, they are considered operational effects and are therefore discussed in Section 13.4.3 below. No indirect effects were identified which would occur at the construction stage.

13.4.2 Construction Phase Potential Impacts (Direct)

Direct Impact refers to a ‘physical impact’ on a monument or site. The construction phase of a development may consist of earthmoving activities such as topsoil removal and excavation works as part of the construction phase. This may have a number of potential negative impacts on the known and potential archaeological heritage. These are outlined below with the suggested mitigation measures.

13.4.2.1 UNESCO World Heritage sites

The Hill of Uisneach and Clonmacnoise are listed on the tentative list (2010) as part of the Royal Sites of Ireland. As they are located away from the Wind Farm Site, no direct effects will occur. Indirect visual impacts are addressed in section 13.4.3.1 below.

13.4.2.2 National Monuments

Three National Monuments in State Care are located within 10km from the nearest proposed turbines. As they are located away from the Wind Farm Site, no direct effects will occur. Indirect effects are addressed in Section 13.4.1.

13.4.2.3 Recorded Monuments within the Wind Farm Site

Pre mitigation Effect

Four recorded monuments are located within the Wind Farm Site. Those along the Grid Connection underground electrical cabling route are dealt with separately below. Groundworks at the construction stage has the potential to directly impact the monuments thereby having a direct negative and permanent effect. The monuments are located an adequate distance from the proposed groundworks however, buffers will be maintained around each monument in order to ensure their protection during the construction phase. The Proposed Development is considered an adequate distance from the monuments, however, the monuments extents and their associated buffers will be detailed in the Construction and Environmental and Management Plan (CEMP) for the development. This mitigation measure will remove the potential negative effect.

Proposed mitigation measures

- 30m buffer zones will be maintained around the monuments the details of which appear in the CEMP.
- No ground works or storage of materials or tracking of machinery will take place within the buffer zones

Residual Effect

No residual direct effects will take place if the mitigation measures are implemented.

Significance of Effects

The overall significance of effects will be such that no direct effects will take place.

Table 13-13: Table of potential direct effects on SMR sites within the Wind Farm Site

SMRs	Class desc	Townland	Turbine	Distance (m)	Potential Effect	Residual Effect (after mitigation)
WM024-131	Enclosure -	Raheen	T7	312	Direct Negative	No residual effects
WM023-077	Ringfort - rath	Ballynafearagh	T9	444	Direct Negative	No residual effects
WM024-135	Ringfort - rath	Raheen	T9	584	Direct Negative	No residual effects

SMRs	Class desc	Townland	Turbine	Distance (m)	Potential Effect	Residual Effect (after mitigation)
WM023-067	Enclosure	Ardbuckan	T4	660	Direct Negative	No residual effects

13.4.2.4 Recorded Monuments within 5km of the nearest proposed turbine

A total of two hundred and twenty two (222) archaeological monuments are located within 5km of the nearest proposed turbine and these are detailed in Table 13-7 above. Since they are located at a remove from the Wind Farm Site, no direct effects will occur. Operational effects are addressed in Section 13.4.3.3 below.

13.4.2.5 Recorded Monuments along the Grid Connection Underground Electrical Cabling Route

Pre mitigation Effect

All recorded monuments located within 100m either side of the underground electrical cabling route were described in Section 13.3.3.1 above. Eleven monuments are located along the underground electrical cabling route. The measurements are based on the distance between the outermost element of the monument (identifiable from either aerial imagery or historic mapping) and the underground electrical cabling route. No monuments will be directly impacted by underground electrical cabling route as they are located off the public road. There are a number of instances where the underground electrical cabling route intersects the ZAP for some monuments and therefore mitigation measures will be implemented during construction works in order to avoid any negative effects arising during construction. A table of impacts and mitigation is presented below for each asset.

Proposed mitigation measures

- Archaeological Monitoring will be carried out along the relevant sections of the Grid Connection cabling route where the route traverses through the ZAP as shown on Figure 13-17 and Figure 13-18 above which are detailed in Table 13-14 below.
- A report on the monitoring should be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.

Residual Effect

Any archaeological sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The construction stage groundworks have the potential to impact on sub-surface archaeological features, if present. The overall significance of effects will be Not Significant.

Table 13-14: Table of impacts and mitigation measures (where relevant)

SMR NO.	CLASS	Townland	Distance to cable route (m)	Comments	Potential Effect	Mitigation
OF002-003	Ringfort - rath	Kilmurragh	73	Cable outside ZAP	None	None Required
OF002-009	Ringfort - unclassified	Newtown (Kilcoursey By., Kilcumreragh Ed)	57	Cable outside ZAP	None	None Required
OF002-043	Standing stone	Cartron Glebe	88	Cable outside ZAP	None	None Required
OF017-037	Charcoal-making site	Ardan	Within road CPO	Excavated as part of N52 Tullamore bypass	Site excavated	None Required
OF017-038	Metalworking site	Ardan	25	Excavated as part of N52 Tullamore bypass	Site excavated	None Required
OF017-039	Metalworking site	Ballynasrah Or Tinnycross	Within road CPO	Excavated as part of N52 Tullamore bypass	Site excavated	None Required
OF009-005029	Redundant record	Durrow Demesne	32	Redundant	None	None Required
WM024-137	Earthwork	Raheen	81	Cable outside ZAP	None	None Required
WM037-004	Ringfort - rath	Kilbeg	26	Within ZAP	Direct effect on potential associated sub-surface features	Archaeological Monitoring during groundworks

SMR NO.	CLASS	Townland	Distance to cable route (m)	Comments	Potential Effect	Mitigation
WM038-017001	Ecclesiastical enclosure	Kilbeggan	Adjacent and traverses ZAP	Within ZAP	Direct effect on potential associated sub-surface features	Archaeological Monitoring during groundworks
WM038-017007	Religious house - Cistercian monks	Kilbeggan	Adjacent and traverses ZAP	Within ZAP	Direct effect on potential associated sub-surface features	Archaeological Monitoring during groundworks

13.4.2.6 Recorded Monuments along the Transport Delivery Route

Since no groundworks are being proposed along the turbine delivery route, no direct effects will occur. The only groundworks associated with same are those within the Wind Farm Site and these have been assessed in Section 13.4.2.3.

13.4.2.7 Sub-surface Archaeological Potential

Pre mitigation Effect

Due to the nature and size of the Proposed Development in terms of excavation works the potential exists that sub-surface archaeological sites or features, if present, may be directly impacted by construction phase activities such as topsoil removal and other excavation works within the Wind Farm Site. This potential impact is likely to be significant, negative and permanent. The impact can be minimised if not removed altogether by the following mitigation measures.

Proposed mitigation measures

- Pre-development archaeological testing of the proposed turbine bases, hardstands, proposed roads, compounds, substation site and any other Proposed Development components within the Wind Farm Site will be carried out under licence from the National Monuments Service. This is in order to identify any archaeological features at the earliest stage possible to allow time to deal with any requirements such as preservation in situ (redesign / avoidance) or preservation by record (archaeological excavation).
- A report on the testing will be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the testing.
- Archaeological Monitoring of all groundworks during construction by a licensed archaeologist.

- A report on the monitoring will be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the monitoring.

Residual Effect

Any archaeological sites/features, if detected, during testing and/or monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The construction stage groundworks have the potential to impact on sub-surface archaeological features, if present. The overall significance of effects will be Not Significant.

13.4.2.8 Protected Structures within the Wind Farm Site

No Protected Structures subject to statutory protection are located within the Wind Farm Site, therefore no direct impacts to this resource are identified.

13.4.2.9 Protected Structures within 5km of the nearest proposed turbine

No Protected Structures subject to statutory protection are located within the Wind Farm Site boundary. The nearest protected structure is RPS 023-001 a single-arched road bridge over the Dungolman River, built c.1855 on the southern Wind Farm Site boundary. This is assessed and detailed in Section 13.3.2.8.

No direct impacts to this bridge or any other RPS structure will occur therefore. Indirect operational effects are addressed in Section 13.4.3.5 below.

13.4.2.10 Protected Structures within 100m of the Grid Connection Underground Electrical Cabling Route

Pre mitigation impact

A photographic record of the underground electrical cabling route is presented in Section 13.3.1.1.12. Twelve RPS structures are located within 100m of either side of the underground electrical cabling route. The excavation of the trench for the underground electrical cabling route has the potential to impact directly on some structures. The majority, however, consist of houses and buildings and will not be directly impacted by cabling works. A table of impacts and mitigation measures is presented below.

Proposed mitigation measures

- Archaeological Monitoring will be carried out along the underground electrical cabling route adjacent to those structures identified in Table 13-15 where the cable route traverses the ZAPs as shown on Figure 13-17 and Figure 13-18 above.

- A report on the monitoring should be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.
- Fencing off the structure 038-064 NIAH 15403808 Milestone at Ballinderry Big prior to construction.
- Protective traffic barriers will be placed around the structure 031-019 NIAH 15403124 Water pump at Ballybrickoge during construction

Any sites/features, if detected, during monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential impact after the implementation of the mitigation measures is likely to be Not Significant.

Significance of Effects

The construction stage groundworks have the potential to impact on sub-surface archaeological features, if present. The overall significance of effects will be Not Significant.

Table 13-15: Table of Impacts and Mitigation Measures along the underground electrical cabling route.

RPS NO	NIAH REF	Structure	Townland	Distance to Grid	Potential Effect	Mitigation	Residual Effect
024-017	15402401	Foxe's Shop	Raheen	Roadside	None	None Required	None
031-002	15403103	St. Thomas' Roman Catholic church	Ballybrickoge	Roadside	None	None Required	None
031-003	N/A	Rosemount National School	Ballybrickoge	Roadside	None	None Required	None
031-004	15403105	Bridge	Kilcumreragh	Roadside	Direct effect	Archaeological Monitoring during cabling	Not Significant
037-004	15403710	Belfry, SS Peter and Paul's Roman Catholic church	Kilbeg	Roadside	None	None Required	None
038-064	15403808	Milestone	Ballinderry Big	Roadside	Direct effect	Fencing of the structure during construction	Not Significant

RPS NO	NIAH REF	Structure	Townland	Distance to Grid	Potential Effect	Mitigation	Residual Effect
031-019	15403124	Water pump	Ballybrickoge	Roadside	Direct effect	Fencing of the structure during construction	Not Significant
038-001	N/A	Water hydrant	Meadowpark	Roadside 61m	None	None Required	None
038-002	15321002	House	Meadowpark	Roadside 92m	None	None Required	None
13-6	14909008	Durrow Abbey House		Roadside 35m	None	None Required	None
13-3	14909005	Saint Columba's Church of Ireland Church		Roadside 82m	None	None Required	None
13-5	14909007	Post box		92m	None	None Required	None

13.4.2.11 NIAH structures within the Wind Farm Site

No structures listed in the NIAH are located within the Wind Farm Site, therefore no direct impacts to this resource are identified.

13.4.2.12 NIAH structures within 5km of the nearest proposed turbines

Three structures listed in the NIAH are located within 5km of the nearest proposed turbine and are detailed in Table 13-9 above. No structures listed in the NIAH are located within the Wind Farm Site therefore no direct impacts to this resource are identified.

13.4.2.13 NIAH structures within 100m of the Grid Connection Underground Electrical Cable Route

Pre-mitigation Effect

A photographic record of the underground electrical cabling route is presented in Section 13.3.1.1.12. Five NIAH structures within the 100m study area do not have RPS status (all in County Westmeath). These are presented in Table 13-16 below.

Table 13-16: Table of Impacts on NIAH structures (which are not RPS structures) located within 100m of the underground electrical cabling route.

NIAH REF	Structure	Townland	Distance to Grid	Comments	Potential Effect	Mitigation	Residual Effect
15403106	house	Kilcumreragh	17m at roadside		None (private house)	None required	None
15403107	outbuilding	Kilcumreragh	43m		Same as above	None required	None
15403108	house	Kilcumreragh	Roadside	No longer on NIAH records – removed.	None (private house)	None required	None
15403711	house	Kilbeg	Roadside		None (private house)	None required	None
15403712	Gates / railings / walls	Meeldrum	Roadside			None required	None

Proposed Mitigation Measures

No mitigation measures are being proposed

Residual Effect

There will be no residual impacts since no impacts were identified.

Significance of Effects

There will be no significant effects since no impacts were identified.

13.4.2.14 Features of Local Cultural Heritage Merit (Direct effects)

13.4.2.14.1 Umma House Demesne

Pre-Mitigation Effect

Umma House is located 295m west of the proposed turbine T8. The house is derelict and has been modernised with a slate roof and boarded windows. The structure is marked on the 25inch OS Historic map and also the 1st Edition OS map of the late 1800s. Umma House is shown on the western side of the small demesne on the earlier 1st Edition map whereas it is marked at the East on the later 25 inch edition. The outbuildings associated with the house still stand to some degree although are in a state of disrepair also. Neither structure are listed in the Record of Protected Structures or the NIAH and are considered to be of low architectural merit albeit of local cultural heritage value. A photographic record of the house and associated buildings is detailed in Section 13.3.1.

The structure and outbuildings are located an adequate distance from any Proposed Development infrastructure and will not be impacted at the construction stage. In order to avoid accidental damage by machinery the following mitigation will be implemented during construction.

Proposed mitigation measures

- An exclusion zone will be established around the house and associated outbuildings prior to construction as detailed in Figure 13-22.

Residual Effect

As the structures will be excluded from the area of the groundworks no direct impacts to these features will occur. In this regard, the potential impact after the implementation of the mitigation measures is likely to be imperceptible.

Significance of Effects

The overall significance of effects will be imperceptible.

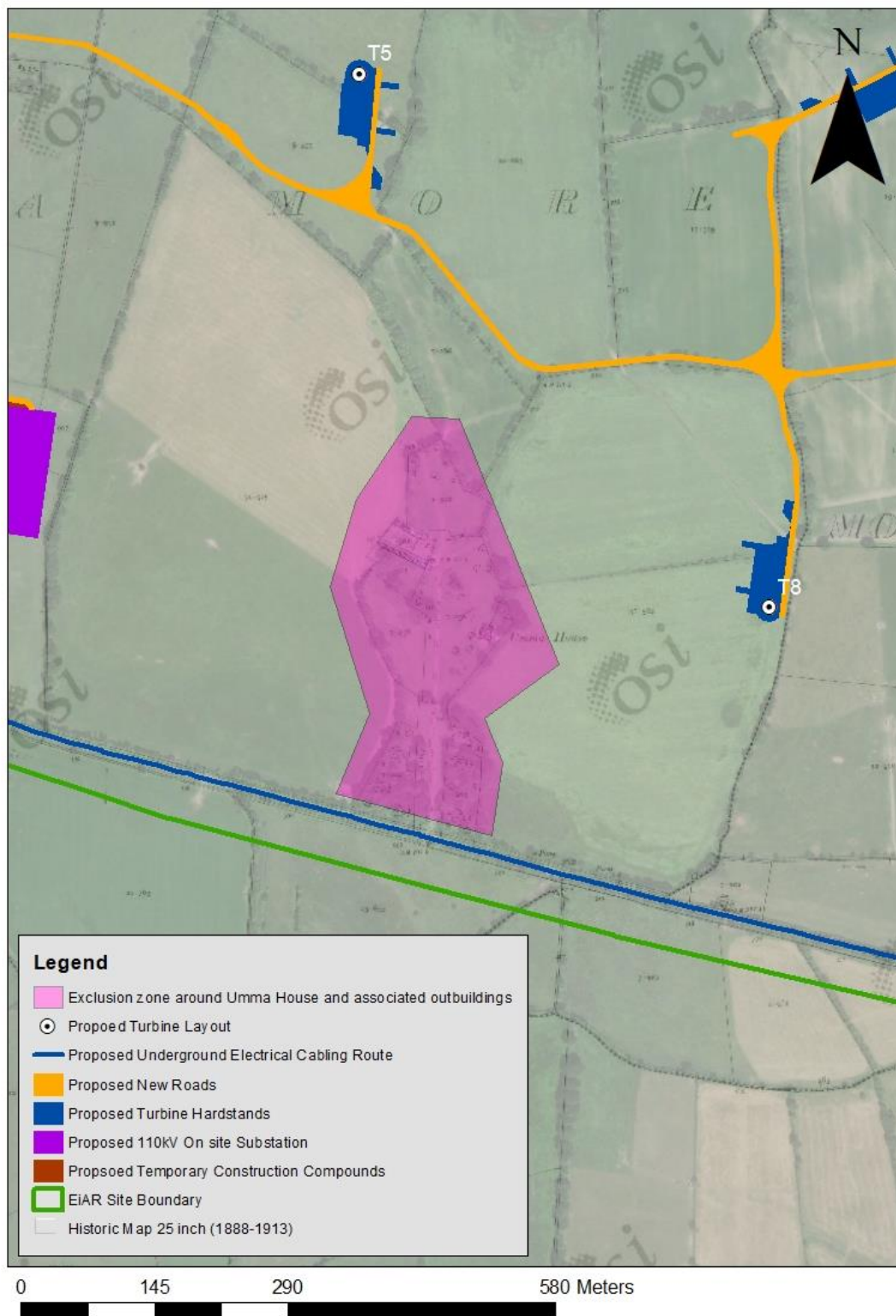


Figure 13-22: Exclusion zone around Umma House and associated outbuildings during construction

13.4.3 Operational Phase Potential Impacts (Indirect)

Indirect impacts are where a feature or site of archaeological, architectural heritage merit or their setting is located in close proximity to a proposed development. Indirect impacts here are mainly concerned with impacts on setting of cultural heritage sites.

Impacts on settings of sites may arise when a development is proposed immediately adjacent to a recorded monument or cluster of monuments. While the Proposed Development may not physically impact on a site, it may alter the setting of a monument or group of monuments. There is no standardised industry-wide approach for assessing the degree of impact to the setting of a monument. For purposes of assessing visual impact on setting, the uniqueness of the monuments, the potential interrelationships of monuments, the inter-visibility of monuments, visual dominance and whether a setting is altered or unaltered can be used to assess impact. The nature and dominance of the Proposed Development is also taken into consideration and the topography within which the Proposed Development is located. Operational effects are considered largely as a result of the proposed turbines rather than for example proposed temporary construction compounds or the Grid Connection etc which would not be dominant in the wider landscape setting in general.

13.4.3.1 UNESCO World Heritage sites

Ireland's Tentative list of World Heritage sites was consulted for those sites that may occur within the 25km study area from the nearest proposed turbine.

Table 13-17: Table of impacts on UNESCO monuments (Tentative list) within 25km of nearest proposed turbine)

Nat. Mon. No.	SMR NO.	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (m)	Potential Effect	Significance of Effect	Mitigation
155	WM 024-069, WM 024-061	Ringfort, Barrow & Stone	Ushnagh Hill	7	8800	Indirect and visual	Slight/Moderate	None
81, 250 & 601	OF0 05-005	Early Medieval Ecclesiastical Site	Clonmacnoise	4	23,500	Indirect and visual	Imperceptible	None

13.4.3.1.1 The Hill of Uisneach

Pre-Mitigation Effect

The Hill of Uisneach is listed on the tentative list (2010) as part of the Royal Sites of Ireland and is located 8.8km to the west of Turbine 7. The Hill of Uisneach is located in private land to which no

access was permitted for purposes of obtaining photomontages. A number of tools were therefore used in order to ascertain what potential impacts on setting may occur as a result of the proposed turbines. These tools included overlaying the monument on the Zone of Theoretical Visibility (ZTV) used as part of the LVIA Chapter 12. The nearest proposed turbine is located approximately 8.8km west of the summit of the Hill and in this regard, it is suggested that the Hill will not be materially altered as a result of the proposed turbines. Some effects are however acknowledged. As illustrated in the visuals in Section 12.7.3.1 in Chapter 12 of this EIAR: LVIA, a landscape of highly vegetated and undulating farmland provides a substantial physical buffer between the Hill of Uisneach itself and the Wind Farm Site. The visuals are not re-produced here in order to avoid repetition. The visual can be referred to in Section 12.7.3.1. The immediate setting of the monuments on Uisneach Hill will not be impacted due mainly to the intervening distance and physical intervening buffer. The important connection to other monuments such as Frewin Hill and Lough Crew will not be impacted. The inter-visibility of the monuments may be regarded as an important aspect of these monument and their relationship with similar monuments and sites in the surrounding landscape.

In order to provide an assessment of Uisneach Hill, given that access was not permitted, a ‘Rendered Wireline’ of the Hill was produced and is presented in detail in Chapter 12. Details on the production of this Rendered Wireline is included in Appendix 12-1, as well as Appendix 12-3 where visual effects arising from this viewpoint have been assessed from a landscape perspective. The Rendered Wireline is a simplistic graphic of the landscape view from the Hill of Uisneach. It was compiled using a scaled wireline model generated from co-ordinates mapped at the peak of the hill. In the context of the photomontage booklet (views presented at 90° and 53.5°), the Rendered Wireline enables a visual impact assessment to be conducted that addresses the scale, form and arrangement of the proposed turbines within views from the hill. The scaling and modelling of turbines in the Rendered Wireline is consistent with all other photomontages, ultimately enabling a robust visual impact assessment.

Visibility from the Hill

All turbines of the Proposed Development are likely to be visible from the top of the Hill of Uisneach where open views are permitted to the west. As shown by the Rendered Wireline as presented in Chapter 12, the proposed turbines appear as a linear array across the background of the view. At a distance of approximately 8.8km to the nearest proposed turbine, they are seen as small background features and comprise a small horizontal extent in the panoramic landscape view. This change is considered to be slight/moderate.

Visibility from Catstone

The Cat Stone is a National Monument as well as a feature of the landscape of the Hill of Uisneach and falls within an area of full theoretical visibility on the ZTV. Figure 12-33 as presented in Chapter 12, LVIA shows a Google Street View Image showing a view towards the Wind Farm Site from the Cat Stone. A scaled wireline image is shown below the Google Street View Image indicating the location, scale and form of the proposed turbines from the Cat Stone. The proposed turbines will be visible from this location but partially screened by the intervening ridgeline (and treeline upon the horizon) visible in the background of the image. This potential impact will be slight/moderate.

Mitigation Measures

No mitigation measures are being proposed.

Residual Effect

The residual effect will be the same as the pre-mitigation effect which is Slight./Moderate

Significance of Effects

No significant effects on setting will occur arising from the proposed turbines. The overall significance of effects is Slight/Moderate.

13.4.3.1.2 Clonmacnoise

The Clonmacnoise Early Ecclesiastical complex shows areas of varying theoretical visibility as well as some areas of full theoretical visibility on the ZTV. Clonmacnoise is located at low elevation on the southern banks of the Shannon River and is located approximately 23.5km south-west of the nearest proposed turbine.

Pre-mitigation Effect

The turbines (at the operational stage) have the capability to negatively impact on the setting of Clonmacnoise Archaeological complex. In this regard a number of tools were utilised to ascertain whether or not this is likely to occur. The assessment included the use of the ZTV and photowire visualisations in Chapter 12 LVIA. This assessment concluded that due to a number of factors, the overall impacts on setting would be negligible. These factors include the following:

- Clonmacnoise is located in a low-lying flat landscape therefore distant visibility from such a low-lying receptor is very limited at a distance of 23.5km.
- Many views towards the Wind Farm Site from within the site at Clonmacnoise are further limited by a line of evergreen trees enclosing the eastern graveyard as demonstrated by three photowire visualisations included in Appendix 12-5 (AltVP-L; AltVP-M; & AltVP-N).

A wireline was produced from Clonmacnoise and is presented in Figure 12-21 in the EIAR Chapter 12: LVIA.

The wireline referenced above shows that if there are small areas of open visibility towards the Wind Farm Site, the proposed turbines would only just be discernible as small distant features and it would be very difficult to identify them within the long-ranging view. Considering the substantial set back distance, physical buffers in the intervening landscape and enclosed eastern boundary, the Proposed Development will cause an Imperceptible effect on the setting of Clonmacnoise. Although this is an asset of very high sensitivity, on balance, it is considered that no significant visual effects will occur from Clonmacnoise.

Mitigation Measures

No mitigation measures are being proposed.

Residual Effect

The residual impact will be the same as the pre-mitigation impact which is Imperceptible.

Significance of Effect

No significant effects on setting will occur arising from the proposed turbines. The overall significance of effects is Imperceptible.

13.4.3.2 National Monuments

Three National Monuments in State Care are located within 10km from the nearest proposed turbines. The proposed turbines, when operational, have the capacity to impact on the setting of the National Monuments as described above in Section 13.3.2.2.

Table 13-18: Table of Impacts on National Monuments within 10km of the nearest proposed turbines

Nat. Mon. No.	SMR NO.	CLASS	TOWNLAND	TURBINE ID	DISTANCE TO NEAREST TURBINE (M)	Potential Effect	Significance of Effects
155	WM0 24-069, WM0 24-061	Ringfort, Barrow & Stone	Ushnagh Hill	7	8500	Indirect visual	Slight
223	WM0 29-008	Bealin Cross High Cross	Twyford	4	9000	Indirect visual	Imperceptible
560	WM0 23-013001	Motte	Dunnamona	1	5200	Indirect visual	Not Significant

13.4.3.2.1 National Monument 155 Ushnagh Hill

This monument has been described in Section 13.3.2.1 since it falls within the 20km study area of those monuments with Tentative World Heritage status.

13.4.3.2.2 National Monument 223 Bealin Cross High Cross

Pre-mitigation Effect

The monument is just located in an area of the ZTV where one turbine may theoretically be visible. This is a theoretical precautionary scenario and in reality localised screening will alleviate any potential impacts on setting. The photomontage shows no turbine visibility and therefore the potential effect is imperceptible.

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual effect will be Imperceptible.

Significance of Effects

The overall significance of effects will be Imperceptible.

13.4.3.2.3 **National Monument 560 Dunnamona Motte**

Pre-mitigation Effect

The monument is located in an area of the ZTV where eight turbines may theoretically be visible. This is a theoretical precautionary scenario as the model does not take natural screening and buildings into consideration which may in reality minimise and reduce any potential impacts on setting.

The photomontage shows some limited visibility of some turbine blades and therefore the overall effect on setting is considered to be Not Significant.

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual effect will be Not Significant.

Significance of Effects

The overall significance of effects will be Not Significant.

13.4.3.3 **Recorded Monuments within the Wind Farm Site**

Pre-mitigation impact

Four recorded monuments are located within the Wind Farm Site. The proposed turbines have the capacity to impact on the setting of the monuments, however, field assessment shows that the monuments are largely levelled leaving no substantial trace of their outlines. In this regard, since the monuments are barely discernible, the turbines are not capable of effecting the settings since the monuments have no above ground expression.

Table 13-19: Table of Impacts on Monuments within the Wind Farm Site according to distance and number of turbines visible

SMRS	CLASSDESC	Tland_name	Turbine	Distance (m)	Category	ZTV (No of Turbines Visible)	Potential Significance of Effects	Mitigation	Residual Effect
WM 024-131	Enclosure -	Raheen	T7	312	0-1km	9	Significant	None	Largely levelled. No impacts on setting as barely discernible
WM 023-077	Ringfort - rath	Ballynafearagh	T9	444	0-1km	9	Significant	None	Largely levelled. No impacts on setting as barely discernible
WM 024-135	Ringfort - rath	Raheen	T9	584	0-1km	9	Significant	None	Partially levelled – Slight effect on setting.
WM 023-067	Enclosure	Ardbuckan	T4	660	0-1km	9	Significant	None	No Surface Trace. Monument levelled. No impact on setting.

Mitigation Measures

It is not necessary to provide mitigation measures since the monuments are largely levelled.

Residual Impact

Since no mitigation measures are being proposed there will be no residual impacts.

Significance of Effects

The overall significance of effects is such that no impacts on the monuments will take place. A slight effect on setting on WM024-135 may occur due to the partial survival of some elements of the monument.

13.4.3.4 Recorded Monuments within 5km of the nearest proposed turbine

Pre-mitigation Effect

A total of two hundred and twenty two (222) archaeological monuments are located within 5km of the nearest proposed turbine and these are detailed in Figure 13-6 above. The monuments within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may be visible from their locations. The ZTV shows that 215 of the 222 have some visibility varying from 1 turbine to 9 turbines. Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive a level of potential effect on setting. Potential effects on setting as detailed in the table below are based on the theoretical precautionary scenario in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and in reality the potential effect is likely to be less.

MAP ID	SMR	CLASS	TD.	Tur bine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
1	WM0 16-030—	Ringfort - rath	Rath Upper	T1	4822	9	Not Significant
2	WM0 16-032—	Barrow - mound barrow	Gortmore	T1	3880	9	Slight
3	WM0 16-033—	Barrow - mound barrow	Gortmore	T1	3886	9	Slight
4	WM0 16-034—	Ringfort - rath	Gortmore	T1	4022	9	Not Significant
5	WM0 16-035—	Ringfort - rath	Toorevagh	T1	4171	9	Not Significant
6	WM0 16-036—	Mound	Calliaghstown (Rathconrath By.)	T1	3789	9	Slight
7	WM0 16-038—	Ringfort - unclassified	Newtown (Delvin By.)	T1	3686	9	Slight
8	WM0 16-039—	Ringfort - rath	Newtown (Delvin By.)	T1	3379	9	Slight

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
9	WM0 16-040—	Ringfort - rath	Newtown (Delvin By.)	T1	3169	9	Slight
10	WM0 16-041—	Ringfort - rath	Newtown (Delvin By.)	T1	3328	9	Slight
11	WM0 17-083—	Castle - unclassified	Shinglis	T1	4258	9	Not Significant
12	WM0 17-084—	Enclosure	Shinglis	T1	4202	9	Not Significant
13	WM0 17-085—	Ringfort - unclassified	Shinglis	T1	4314	9	Not Significant
14	WM0 17-086—	Military camp	Shinglis	T1	4263	9	Not Significant
15	WM0 23-014—	Enclosure	Dunnamona	T1	4759	6	Not Significant
16	WM0 23-01400 1-	House - indeterminate date	Dunnamona	T1	4759	6	Not Significant
17	WM0 23-015—	Earthwork	Dunnamona	T1	4921	8	Not Significant
18	WM0 23-016—	Castle - unclassified	Dunnamona	T1	4754	6	Not Significant
19	WM0 23-017—	Ringfort - rath	Dunnamona	T1	4094	7	Not Significant
20	WM0 23-018—	Ringfort - rath	Kilcornan	T1	3512	9	Slight

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
21	WM0 23-019—	Redundant record	Ballynalone	T1	2874	9	Moderate
22	WM0 23-020—	Ringfort - rath	Newtown (Delvin By.)	T1	2930	9	Moderate
23	WM0 23-021—	Barrow - unclassified	Carricknagower	T1	2754	9	Moderate
24	WM0 23-022—	Ringfort - rath	Ballynalone	T1	2265	9	Moderate
25	WM0 23-031—	Ringfort - rath	Ardnagragh (Digby)	T1	4881	9	Not Significant
26	WM0 23-032—	Ringfort - unclassified	Curraghbane	T1	4547	9	Not Significant
27	WM0 23-034—	Castle - tower house	Ardnagragh (Gray)	T2	4877	9	Not Significant
28	WM0 23-035—	Ringfort - rath	Cormaclew	T2	4672	9	Not Significant
29	WM0 23-035001-	House - indeterminate date	Cormaclew	T2	4681	9	Not Significant
30	WM0 23-036—	Castle - motte	Drumraney	T1	2328	9	Moderate
31	WM0 23-037—	Ringfort - rath	Drumraney	T1	2312	9	Moderate
32	WM0 23-038—	Earthwork	Drumraney	T1	2116	9	Moderate

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
33	WM0 23-039—	Ritual site - holy well	Cartroncoragh	T1	2103	9	Moderate
34	WM0 23-040—	Church	Cartroncoragh	T1	2111	9	Moderate
35	WM0 23-04000 1-	Graveyard	Cartroncoragh	T1	2110	9	Moderate
36	WM0 23-04000 2-	Graveslab	Cartroncoragh	T1	2091	9	Moderate
37	WM0 23-04000 3-	Graveslab	Cartroncoragh	T1	2088	9	Moderate
38	WM0 23-04000 4-	Ecclesiastical enclosure	Cartroncoragh	T1	2085	9	Moderate
39	WM0 23-041—	Burial mound	Baskin Low	T1	1853	9	Significant
40	WM0 23-043—	Barrow - unclassified	Drumraney	T1	2806	9	Moderate
41	WM0 23-044—	Moated site	Drumraney	T1	2802	9	Moderate
42	WM0 23-04400 1-	House - indeterminate date	Drumraney	T1	2808	9	Moderate
43	WM0 23-045—	Ringfort - rath	Baskin High	T1	1017	9	Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
44	WM0 23-046—	Castle - unclassified	Baskin High	T1	741	9	Significant
45	WM0 23-047—	Standing stone	Snimnagorta	T1	1535	9	Significant
46	WM0 23-048—	Souterrain	Snimnagorta	T1	1540	9	Significant
47	WM0 23-053—	Ringfort - rath	Ardnagragh (Digby)	T4	4748	5	Not Significant
48	WM0 23-054—	Moated site	Killeennanam	T4	3691	4	Not Significant
49	WM0 23-055—	Ringfort - rath	Walderstown	T4	5000	7	Not Significant
50	WM0 23-057—	Ringfort - rath	Bryanmore Upper	T4	3532	1	Not Significant
51	WM0 23-059—	Ringfort - rath	Bryanmore Upper	T4	3111	9	Slight
52	WM0 23-060—	Ringfort - rath	Carrickaneha	T4	2908	9	Moderate
53	WM0 23-061—	Ringfort - rath	Carrickaneha	T4	2736	9	Moderate
54	WM0 23-062—	Souterrain	Ardborra	T2	1465	9	Significant
55	WM0 23-063—	Moated site	Ardborra	T4	1544	9	Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
56	WM0 23-063001-	House - indeterminate date	Ardborra	T4	1549	9	Significant
57	WM0 23-064—	Burial mound	Carrickaneha	T4	2660	9	Moderate
58	WM0 23-065—	Ringfort - rath	Lissanode	T4	1675	9	Significant
59	WM0 23-066—	Moated site	Ardborra	T4	1160	9	Significant
60	WM0 23-067—	Enclosure	Ardbuckan	T4	660	9	Significant
61	WM0 23-068—	Barrow - mound barrow	Mullenmeehan	T6	1408	9	Significant
62	WM0 23-071—	Ringfort - unclassified	Cloghbreen	T4	2835	9	Moderate
63	WM0 23-072—	Ringfort - unclassified	Cloghbreen	T4	2872	9	Moderate
64	WM0 23-073—	Enclosure	Fairfield	T4	3309	9	Slight
65	WM0 23-074—	Castle - unclassified	Lissanode	T4	1587	9	Significant
66	WM0 23-075—	Earthwork	Lissanode	T4	665	9	Significant
67	WM0 23-076—	Ringfort - unclassified	Toorbeg	T4	1824	9	Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
68	WM0 23-077—	Ringfort - rath	Ballynafearagh (Rathconrath By., Umna Ed)	T9	444	9	Significant
69	WM0 23-07800 1-	Ringfort - unclassified	Moyvoughly	T4	1434	9	Significant
70	WM0 23-07800 2-	Earthwork	Moyvoughly	T4	1443	9	Significant
71	WM0 23-07800 3-	House - indeterminate date	Moyvoughly	T4	1434	9	Significant
72	WM0 23-079—	Ringfort - rath	Raheen	T9	455	9	Significant
73	WM0 23-080—	Ringfort - rath	Raheen	T9	733	9	Significant
74	WM0 23-083—	Mass-rock	Harrystown	T1	1159	9	Significant
75	WM0 23-084—	Water mill - vertical-wheeled	Harrystown	T1	1149	9	Significant
76	WM0 23-085—	Burnt mound	Milltown (Rathconrath By., Ballymore Ed)	T1	1763	9	Significant
77	WM0 23-087—	Mass-rock	Killininneen	T4	4612	6	Not Significant
78	WM0 23-089—	Ritual site - holy well	Bryanmore Upper	T4	3495	9	Slight

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
79	WM0 23-090—	Enclosure	Moyvoughly	T8	1024	9	Significant
80	WM0 23-092—	Ritual site - holy well	Fairfield	T4	3336	9	Slight
81	WM0 24-001—	Ringfort - unclassified	Shinglis	T1	3729	9	Slight
82	WM0 24-002—	Crannog	Shinglis	T1	3718	9	Slight
83	WM0 24-003—	Military camp	Ballymore	T1	2739	9	Moderate
84	WM0 24-004—	Castle - motte and bailey	Ballymore	T1	3634	9	Slight
85	WM0 24-00400 1-	Bastioned fort	Ballymore	T1	3537	9	Slight
86	WM0 24-00400 2-	Road - hollow-way	Ballymore	T1	3270	9	Slight
87	WM0 24-00400 3-	House - 16th/17th century	Ballymore	T1	3417	9	Slight
88	WM0 24-005—	Church	Ballymore	T1	3132	9	Slight
89	WM0 24-00500 1-	Graveyard	Ballymore	T1	3146	9	Slight
90	WM0 24-	Mausoleum	Ballymore	T1	3166	9	Slight

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
	005002-						
91	WM024-006—	Ringfort - rath	Mullaghcloe	T1	4468	9	Not Significant
92	WM024-007—	Ringfort - rath	Mullaghcloe	T1	4159	9	Not Significant
93	WM024-008001-	Mass-rock	Mullaghcloe	T1	4114	9	Not Significant
94	WM024-008002-	Ritual site - holy well	Mullaghcloe	T1	4128	9	Not Significant
95	WM024-008003-	Castle - unclassified	Mullaghcloe	T1	4241	9	Not Significant
96	WM024-032—	Military camp	Ballymore	T1	2878	9	Moderate
97	WM024-033—	Standing stone	Ballymore	T1	2311	9	Moderate
98	WM024-034—	Religious house - Augustinian canons	Ballymore	T1	3184	9	Slight
99	WM024-035—	Barrow - ring-barrow	Clonyveey	T7	3845	9	Slight
100	WM024-036—	Ringfort - rath	Clonyveey	T7	3489	9	Slight
101	WM024-037—	Ringfort - rath	Clonybane	T7	2354	9	Moderate

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
102	WM0 24-03700 1-	Enclosure	Clonybane	T7	2343	9	Moderate
103	WM0 24-038—	Ringfort - rath	Maddadoo	T7	4457	9	Not Significant
104	WM0 24-040—	Ringfort - rath	Clare	T7	4182	7	Not Significant
105	WM0 24-04000 1-	House - indeterminate date	Clare	T7	4179	7	Not Significant
106	WM0 24-041—	Ringfort - rath	Rackavra	T7	4517	9	Not Significant
107	WM0 24-042—	Ringfort - rath	Dungaghy	T7	4310	3	Not Significant
108	WM0 24-04200 1-	House - indeterminate date	Dungaghy	T7	4310	3	Not Significant
109	WM0 24-075—	Ringfort - rath	Clonybane	T7	1960	9	Significant
110	WM0 24-076—	Ringfort - rath	Clonybane	T7	1593	9	Significant
111	WM0 24-078—	Castle - tower house	Clare	T7	3006	9	Slight
112	WM0 24-07800 1-	Bawn	Clare	T7	2991	9	Moderate

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
113	WM0 24-079—	Ringfort - rath	Clare	T7	2947	2	Not Significant
114	WM0 24-080—	Ringfort - unclassified	Clare	T7	3516	7	Slight
115	WM0 24-081—	Ringfort - rath	Dungaghy	T7	3879	7	Slight
116	WM0 24-082—	Ringfort - unclassified	Dungaghy	T7	3827	8	Slight
117	WM0 24-083—	Ringfort - rath	Dungaghy	T7	3759	7	Slight
118	WM0 24-084—	Ringfort - rath	Dungaghy	T7	4141	9	Not Significant
119	WM0 24-085—	Ringfort - rath	Dungaghy	T7	4312	1	Not Significant
120	WM0 24-086—	Ringfort - rath	Dungaghy	T7	4216	9	Not Significant
121	WM0 24-088—	Ringfort - rath	Clare	T7	3425	8	Slight
122	WM0 24-089—	Ringfort - rath	Clare	T7	2884	9	Moderate
123	WM0 24-08900 1-	Hut site	Clare	T7	2884	9	Moderate
124	WM0 24-090—	Ringfort - rath	Taghnafeearagh	T7	4808	9	Not Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
125	WM0 24-091—	Ringfort - rath	Taghnafeearagh	T7	4908	9	Not Significant
126	WM0 24-092—	Ringfort - unclassified	Taghnafeearagh	T7	4352	9	Not Significant
127	WM0 24-093—	Ringfort - rath	Ballinkeeny Or Mosstown	T7	4760	9	Not Significant
128	WM0 24-131—	Enclosure - large enclosure	Raheen	T7	312	9	Significant
129	WM0 24-132—	Barrow - ring-barrow	Ballinlig Lower	T7	1484	9	Significant
130	WM0 24-133—	Earthwork	Ballinlig Upper	T7	1228	9	Significant
131	WM0 24-134—	Ringfort - rath	Clare	T7	2512	9	Moderate
132	WM0 24-135—	Ringfort - rath	Raheen	T9	584	9	Significant
133	WM0 24-136—	Children's burial ground	Raheen	T9	763	9	Significant
134	WM0 24-137—	Earthwork	Raheen	T9	861	9	Significant
135	WM0 24-138—	Ringfort - rath	Clare	T7	3237	9	Slight
136	WM0 24-139—	Ringfort - rath	Ballinaspick Or Bishopstown	T7	3614	9	Slight

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
137	WM0 24-140—	Ringfort - rath	Ballinaspick Or Bishopstown	T7	3625	9	Slight
138	WM0 24-140001-	House - indeterminate date	Ballinaspick Or Bishopstown	T7	3625	9	Slight
139	WM0 24-141—	Ringfort - rath	Ballinaspick Or Bishopstown	T7	4343	9	Not Significant
140	WM0 24-141001-	Souterrain	Ballinaspick Or Bishopstown	T7	4334	9	Not Significant
141	WM0 24-142—	Ringfort - rath	Ballinaspick Or Bishopstown	T7	4687	7	Not Significant
142	WM0 24-143—	Ringfort - rath	Ballinaspick Or Bishopstown	T7	4831	9	Not Significant
143	WM0 24-144—	Castle - unclassified	Ballinaspick Or Bishopstown	T7	4097	9	Not Significant
144	WM0 24-145—	Ringfort - rath	Ballinaspick Or Bishopstown	T7	4130	9	Not Significant
145	WM0 24-146—	Ringfort - rath	Ballinaspick Or Bishopstown	T7	4611	9	Not Significant
146	WM0 24-171—	Well	Coolatoor	T7	3629	9	Slight
147	WM0 24-179—	Settlement deserted - medieval	Ballymore, Clonyveey, Mullaghcloe	T1	3360	9	Slight
148	WM0 24-179001-	Kiln - lime	Mullaghcloe	T1	3566	9	Slight

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
149	WM0 24-181—	Religious house - Cistercian nuns	Clonnamanagh, Mullaghcloe	T7	3302	9	Slight
150	WM0 24-182—	Castle - tower house	Ballymore	T1	3087	9	Slight
151	WM0 24-182001-	Bawn	Ballymore	T1	3100	9	Slight
152	WM0 24-184—	Crannog	Lugacaha	T1	3799	9	Slight
153	WM0 24-185—	Redundant record	Lugacaha	T1	3105	9	Slight
154	WM0 24-186—	Hospital	Ballymore	T1	3566	9	Slight
155	WM0 24-188—	Designed landscape - tree-ring	Ballinlig Lower	T7	1523	9	Significant
156	WM0 24-189—	Water mill - unclassified	Ballinkeeny Or Mosstown	T7	4982	9	Not Significant
157	WM0 24-190—	Water mill - unclassified	Mullenmeehan	T7	769	6	Moderate
158	WM0 24-191—	Redundant record	Ballymore, Mullaghcloe	T1	3504	9	Slight
159	WM0 30-012—	Ringfort - rath	Legan (Clonlonan By., Mount Temple Ed)	T4	4154	9	Not Significant
160	WM0 30-	House - indeterminate date	Legan (Clonlonan By.,	T4	4154	9	Not Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
	012001-		Mount Temple Ed)				
161	WM030-013—	Ringfort - rath	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	2018	9	Moderate
162	WM030-014—	Ringfort - rath	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	2573	9	Moderate
163	WM030-015—	Ringfort - rath	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	2690	9	Moderate
164	WM030-016—	Ringfort - rath	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	2066	9	Moderate
165	WM030-017—	Ringfort - rath	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	1982	9	Significant
166	WM030-018—	Earthwork	Moyvoughly	T4	2116	9	Moderate
167	WM030-019—	Ringfort - rath	Correagh (Clonlonan By.)	T4	4059	9	Not Significant
168	WM030-020—	Exhibitionist figure (present location)	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	3073	9	Slight
169	WM030-021—	Standing stone	Moyvoughly	T8	2741	9	Moderate
170	WM030-022—	Barrow - unclassified	Moyvoughly	T8	1570	9	Significant
171	WM030-023—	Barrow - bowl-barrow	Moyvoughly	T8	1653	9	Significant
172	WM030-024—	Castle - unclassified	Moyvoughly	T9	1215	9	Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
173	WM0 30-02500 1-	Ritual site - holy well	Moyvoughly	T9	1418	9	Significant
174	WM0 30-02500 2-	Bullaun stone	Moyvoughly	T9	1451	9	Significant
175	WM0 30-026—	Ringfort - rath	Moyvoughly	T8	2202	9	Moderate
176	WM0 30-027—	Enclosure	Moyvoughly	T9	2093	9	Moderate
177	WM0 30-040—	Ringfort - rath	Mount Temple	T4	4593	9	Not Significant
178	WM0 30-041—	Ringfort - rath	Labaun	T4	4965	9	Not Significant
179	WM0 30-050—	Ringfort - unclassified	Labaun	T4	4493	9	Not Significant
180	WM0 30-051—	Ringfort - rath	Dunlom West	T4	4127	9	Not Significant
181	WM0 30-052—	Ringfort - rath	Dunlom East	T4	3840	9	Slight
182	WM0 30-053—	Ringfort - rath	Ballydoogan	T4	3812	9	Slight
183	WM0 30-054—	Ringfort - rath	Ballydoogan	T8	3729	9	Slight
184	WM0 30-055—	Ringfort - rath	Dunegan	T4	4901	9	Not Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
185	WM0 30-056—	Ringfort - rath	Shurock (Clonlonan By.)	T4	4913	9	Not Significant
186	WM0 30-057—	Enclosure - large enclosure	Ballydoogan	T8	4295	9	Not Significant
187	WM0 30-079—	Ringfort - rath	Shurock (Clonlonan By.)	T8	4783	9	Not Significant
188	WM0 30-118—	Crannog	Ballinderry (Clonlonan By.), Kilnahinch	T9	4891	9	Not Significant
189	WM0 30-129—	Architectural feature	Shurock (Clonlonan By.)	T8	4966	9	Not Significant
190	WM0 30-130—	Castle - unclassified	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	3004	9	Slight
191	WM0 30-131—	Water mill - vertical-wheeled	Ballycloghduff (Kilkenny West By., Grogan Ed)	T4	3029	9	Slight
192	WM0 30-132—	Enclosure	Moyvoughly	T9	1607	9	Significant
193	WM0 30-133—	Earthwork	Moyvoughly	T9	1103	9	Significant
194	WM0 30-134—	Enclosure	Moyvoughly	T9	1226	9	Significant
195	WM0 31-001—	Ringfort - rath	Ballynagall (Moycashel By.)	T9	1935	9	Significant
196	WM0 31-002—	Ringfort - rath	Ballynagall (Moycashel By.)	T9	1996	9	Significant

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
197	WM0 31-003—	Castle - ringwork	Ballynagrenia	T9	2488	9	Moderate
198	WM0 31-004—	Burial ground	Ballybrickoge	T9	3139	9	Slight
199	WM0 31-005—	Mound	Coolatoor	T7	3383	9	Slight
200	WM0 31-006—	Ringfort - rath	Coolatoor	T7	3489	9	Slight
201	WM0 31-007—	Stone head	Coolatoor	T7	3484	9	Slight
202	WM0 31-00700 1-	Inscribed stone	Coolatoor	T7	3484	9	Slight
203	WM0 31-00700 2-	Architectural fragment	Coolatoor	T7	3484	9	Slight
204	WM0 31-008—	Ringfort - rath	Coolatoor	T7	3632	9	Slight
205	WM0 31-009—	Ringfort - rath	Coolatoor	T7	4316	6	Not Significant
206	WM0 31-010—	Enclosure	Ballinaspick Or Bishopstown	T7	4386	9	Not Significant
207	WM0 31-012—	Castle - motte and bailey	Ballybrickoge	T9	3827	9	Slight
208	WM0 31-013—	Earthwork	Coolatoor	T9	3961	9	Slight

MAP ID	SMR	CLASS	TD.	Turbine ID	Distance To Turbine (m)	No. of Turbines potentially visible	Potential Effect on Setting
209	WM0 31-01400 1-	Church	Coolatoor	T9	4027	9	Not Significant
210	WM0 31-01400 2-	Ritual site - holy well	Coolatoor	T9	3994	9	Slight
211	WM0 31-015—	Barrow - mound barrow	Coolatoor	T7	4299	9	Not Significant
212	WM0 31-016—	Ringfort - rath	Coolatoor	T7	4322	6	Not Significant
213	WM0 31-044—	House - 17th century	Ballybrickoge	T9	3975	9	Slight
214	WM0 31-045—	Ringfort - rath	Ballintober	T9	4810	3	Not Significant
215	WM0 31-046—	Ringfort - rath	Ballintober	T9	4938	8	Not Significant

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate the potential effects on setting.

Residual Impact

Since no mitigation measures are being proposed the residual impact will be the same as those identified in the table of Potential Effects.

Significance of Effects

The overall significance of effects will be Slight - Significant. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether.

13.4.3.5 Protected Structures within 5km of the nearest proposed turbine

Pre-mitigation Effect

A total of forty (47) protected structures are located within 5km of the nearest proposed turbine and these are detailed above. The structure locations within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may be visible from their locations. The ZTV shows that 46 of the 47 have some visibility varying from 1 turbine to 9 turbines. Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive a level of potential effect on setting. Potential effects on setting as detailed in the table below are based on a theoretical model and therefore a **theoretical precautionary scenario** in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and in reality the potential effect is likely to be less than that identified.

RPS ID	NIAH	STRUCTURE	Td.	TURBINE	DISTANCE TO TURBINE (m)	No. of Turbine Visible	Potential Effect
023-001	15402301	Bridge	Lissanode	T4	605	9	Significant
023-002	15402304	St. Mary's Roman Catholic church	Drumraney	T1	2573	9	Moderate
023-004	15402309	Lissanode House and outbuildings	Lissanode	T4	1566	9	Significant
023-005	15402310	Former school master's house	Cartroncoragh	T2	2366	9	Moderate
023-006	15402312	Drumraney National School	Cartroncoragh	T2	2343	9	Moderate
024-001	15315002	House (former Garda Station) (derelict)	Ballymore	T1	2399	9	Moderate
024-002	15315003	Church of the Most Holy Redeemer	Ballymore	T1	2374	9	Moderate
024-003	15315004	Cunningham's	Ballymore	T1	2458	9	Moderate
024-004	15315005	Postbox	Ballymore	T1	2471	9	Moderate
024-005	15315006	Rooney's/ Kennedy's	Ballymore	T1	2486	9	Moderate
024-006	15315008	House	Ballymore	T1	2590	9	Moderate

RPS ID	NIAH	STRUCTURE	Td.	TURBINE	DISTANCE TO TURBINE (m)	No. of Turbine Visible	Potential Effect
024-007	15315009	Water pump	Ballymore	T1	2617	9	Moderate
024-008	15315010	St. Owen's Church of Ireland church	Ballymore	T1	3132	9	Slight
024-009	15315012	House	Ballymore	T1	3143	9	Slight
024-010	15315013	House	Ballymore	T1	3330	9	Slight
024-011	15315015	Bridge	Mullaghcloe	T1	3369	9	Slight
024-012	15315016	Water pump	Mullaghcloe	T1	3378	9	Slight
024-013	15315017	House	Mullaghcloe	T1	3379	9	Slight
024-014	15315018	Former store	Mullaghcloe	T1	3531	9	Slight
024-015	15315020	Rooney's	Clonyveey	T1	3661	9	Slight
024-016	15315022	Mass rock - Sunday's Well	Mullaghcloe	T1	4128	9	Not Significant
024-017	15402401	Foxe's Shop	Raheen	T9	985	9	Significant
024-024	15402409	Well	Ballinlig Lower	T7	1875	9	Significant
024-026	15402413	House	Mullenmeehan	T7	1569	9	Significant
024-027	15402414	Former rectory - St. Owen's Rectory	Glebe	T7	2062	9	Moderate
024-030	15402418	Postbox	Ballinlig Upper	T7	1454	9	Significant
024-031	15402420	Bridge	Ballinlig Lower	T7	2064	9	Moderate
030-066	15403012	Carved limestone panel, Ballycloghduff House	Ballycloghduff (Grogan)	T4	3069	9	Slight

RPS ID	NIAH	STRUCTURE	Td.	TURBINE	DISTANCE TO TURBINE (m)	No. of Turbine Visible	Potential Effect
030-067	15403013	Ballycloghduff House	Ballycloghduff (Grogan)	T4	3035	9	Slight
030-069	15403017	Ballinderry House	Ballinderry	T9	4991	9	Not Significant
030-070	15403018	Outbuildings, Ballinderry House	Ballinderry	T9	4948	9	Not Significant
030-071	15403019	Gateway	Ballinderry	T9	4800	9	Not Significant
031-002	15403103	St. Thomas' Roman Catholic church	Ballybrickoge	T9	4601	9	Not Significant
031-003	15403104	Rosemount National School	Ballybrickoge	T9	4606	9	Not Significant
031-008	15403113	Outbuildings, Coolatore House	Coolatoor	T7	3376	9	Slight
031-009	15403114	Coolatore House	Coolatoor	T7	3508	9	Slight
031-010	15403115	Gateway, Coolatore House	Coolatoor	T7	3374	9	Slight
031-011	15403116	Gateway, Grouse Lodge	Coolatoor Or Grouselodge	T7	3224	9	Slight
031-012	15403117	Postbox	Coolatoor	T7	3350	9	Slight
031-013	15403118	Grouse Lodge	Coolatoor Or Grouselodge	T7	3041	9	Slight
031-014	15403119	Outbuildings, Grouse Lodge	Coolatoor Or Grouselodge	T7	3017	9	Slight
031-015	15403120	Cottage, Grouse Lodge	Coolatoor Or Grouselodge	T7	3027	9	Slight
031-016	15403121	Rosemount Post Office	Ballybrickoge	T9	4494	9	Not Significant
031-017	15403122	Rosemount House	Ballybrickoge	T9	4066	9	Not Significant

RPS ID	NIAH	STRUCTURE	Td.	TURBINE	DISTANCE TO TURBINE (m)	No. of Turbine Visible	Potential Effect
031-018	15403123	Entrance gateway, Rosemount House	Ballybrickoge	T9	4289	9	Not Significant
031-019	15403124	Water pump	Ballybrickoge	T9	4364	9	Not Significant

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential effect.

Residual Effect

Since no mitigation measures are being proposed the residual effect will be Slight - Significant.

Significance of Effects

The overall significance of effects will be Slight - Significant. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether.

13.4.3.6 NIAH Structures within 5km of the nearest proposed turbine

Pre-mitigation Effect

Of the 72 structures within the 5km study area, 2 have no visibility of any turbines. Impacts on the remaining 70 structures and associated mitigation measures are detailed below. The structure locations within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may be visible from their locations. The ZTV shows that 70 of the 72 have some visibility varying from 1 turbine to 9 turbines. Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive a level of potential effect on setting. Potential effects on setting as detailed in the table below are based on the theoretical precautionary scenario in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and in reality the potential effect is likely to be less than that identified.

Table 13-20: NIAH structures with theoretical visibility of turbines (within 5km study area)

Ma p ID	NIAH	Td.	Structure	Nearest Turbine	Distance to Turbine (m)	Category	No. of Turbines visible on ZTV	Potential Effect on Setting
1	15402301	Lissanode, Moyvoughly	bridge	T4	605	0-1km	9	Significant
2	15402401	Raheen	house	T9	986	0-1km	9	Significant
3	15402415	Raheen	Gates /railings /walls	T9	1065	1-2km	9	Significant
4	15402418	Ballinlig Upper	post box	T7	1454	1-2km	9	Significant
5	15402309	Lissanode	house	T4	1565	1-2km	9	Significant
6	15402413	Mullenmeehan	house	T7	1569	1-2km	9	Significant
7	15402302	Snimnagorta	house	T6	1649	1-2km	9	Significant
8	15402419	Ballinlig Lower	house	T7	1788	1-2km	9	Significant
9	15402409	Ballinlig Lower	well	T7	1874	1-2km	9	Significant
10	15403015	Moyvoughly	stables	T8	1978	1-2km	9	Significant
11	15402414	Glebe (Clonlonan By.)	rectory/ glebe/ vicarage /curate's house	T7	2063	2-3km	9	Moderate
12	15402420	Ballinlig Lower, Clare	bridge	T7	2064	2-3km	9	Moderate
13	15402303	Williamstown (Fore By., Mayne Par.)	house	T4	2145	2-3km	9	Moderate
14	15402421	Clare	house	T7	2220	2-3km	9	Moderate

Ma P ID	NIAH	Td.	Structure	Neares t Turbin e	Distanc e to Turbin e (m)	Categor y	No. of Turbin es visible on ZTV	Potential Effect on Setting
15	15402312	Cartroncoragh	school	T2	2342	2-3km	9	Moderate
16	15402310	Cartroncoragh	school master's house	T2	2365	2-3km	9	Moderate
17	15315003	Ballymore	Church / chapel	T1	2375	2-3km	9	Moderate
18	15315002	Ballymore	house	T1	2399	2-3km	9	Moderate
19	15315004	Ballymore	house	T1	2458	2-3km	9	Moderate
20	15315005	Ballymore	post box	T1	2471	2-3km	9	Moderate
21	15315006	Ballymore	house	T1	2485	2-3km	9	Moderate
22	15315007	Ballymore	house	T1	2542	2-3km	9	Moderate
23	15402304	Drumraney	Church /chapel	T1	2574	2-3km	9	Moderate
24	15315008	Ballymore	house	T1	2589	2-3km	9	Moderate
25	15315009	Ballymore	water pump	T1	2617	2-3km	9	Moderate
26	15403014	Williamstown (Fore By., Mayne Par.)	house	T4	2646	2-3km	9	Moderate
27	15315001	Ballymore	farmyard complex	T1	2846	2-3km	9	Moderate
28	15315001	Ballymore	farmyard complex	T1	2857	2-3km	9	Moderate
29	15402305	Killeennanam	house	T2	2893	2-3km	9	Moderate

Ma p ID	NIAH	Td.	Structure	Neares t Turbine	Distanc e to Turbine (m)	Categor y	No. of Turbines visible on ZTV	Potential Effect on Setting
30	15403119	Ballinderry (Moyashel & Magheradernon By.)	outbuilding	T7	3018	3-4km	9	Slight
31	15403120	Ballinderry (Moyashel & Magheradernon By.)	cottage ornee	T7	3026	3-4km	9	Slight
32	15403013	Ballycloghduff (Molston)	house	T4	3035	3-4km	9	Slight
33	15403118	Ballinderry (Moyashel & Magheradernon By.)	country house	T7	3041	3-4km	9	Slight
34	15403012	Ballycloghduff (Molston)	unknown	T4	3068	3-4km	9	Slight
35	15315010	Ballymore	Church / chapel	T1	3139	3-4km	9	Slight
36	15315012	Ballymore	house	T1	3144	3-4km	9	Slight
37	15315011	Ballymore	Gates / railings/ walls	T1	3151	3-4km	9	Slight
38	15403116	Ballinderry (Moyashel & Magheradernon By.), Coolatoor	demesne walls / gates / railings	T7	3224	3-4km	9	Slight
39	15315021	Balrath (Fore By.)	monastery	T7	3305	3-4km	9	Slight
40	15315013	Ballymore	house	T1	3330	3-4km	9	Slight
41	15315014	Ballymore	filling pump/ station	T1	3332	3-4km	9	Slight

Ma p ID	NIAH	Td.	Structure	Neares t Turbine	Distanc e to Turbine (m)	Categor y	No. of Turbines visible on ZTV	Potential Effect on Setting
42	15403117	Coolatoor	post box	T7	3350	3-4km	9	Slight
43	15402311	Newtown (Delvin By.)	house	T1	3365	3-4km	9	Slight
44	15315015	Ballymore, Mullaghcloe	bridge	T1	3369	3-4km	9	Slight
45	15403115	Coolatoor	demesne walls /gates/ railings	T7	3374	3-4km	9	Slight
46	15403113	Coolatoor	farmyard complex	T7	3376	3-4km	9	Slight
47	15315016	Mullaghcloe	water pump	T1	3378	3-4km	9	Slight
48	15315017	Mullaghcloe	house	T1	3379	3-4km	9	Slight
49	15401610	Calliaghstown (Moygoish By.)	house	T1	3439	3-4km	9	Slight
50	15403114	Coolatoor	house	T7	3508	3-4km	9	Slight
51	15315018	Mullaghcloe	outbuilding	T1	3531	3-4km	9	Slight
52	15315019	Mullaghcloe	house	T1	3537	3-4km	9	Slight
53	15315019	Mullaghcloe	house	T1	3562	3-4km	9	Slight
54	15315020	Clonyveey	house	T1	3665	3-4km	9	Slight
55	15403122	Ballybrickoge	country house	T9	4066	4-5km	9	Not Significa nt
56	15315023	Mullaghcloe	monument	T1	4098	4-5km	9	Not Significa nt

Ma p ID	NIAH	Td.	Structure	Neares t Turbin e	Distanc e to Turbin e (m)	Categor y	No. of Turbin es visible on ZTV	Potential Effect on Setting
57	15315022	Mullaghcloe	mass rock	T1	4128	4-5km	9	Not Significa nt
58	15403123	Ballybrickoge	demesne walls /gates/ railings	T9	4289	4-5km	9	Not Significa nt
59	15403102	Kilcatherina	house	T9	4327	4-5km	9	Not Significa nt
60	15403124	Ballybrickoge	water pump	T9	4364	4-5km	9	Not Significa nt
61	15402307	Walderstown	house	T4	4491	4-5km	6	Not Significa nt
62	15403121	Ballybrickoge	house	T9	4494	4-5km	9	Not Significa nt
63	15403103	Ballybrickoge	church/chap el	T9	4601	4-5km	9	Not Significa nt
64	15403104	Ballybrickoge	school	T9	4606	4-5km	9	Not Significa nt
65	15403011	Labaun	house	T4	4624	4-5km	9	Not Significa nt
66	15403019	Ballinderry (Clonlonan By.)	Gates /railings/ walls	T9	4800	4-5km	9	Not Significa nt
67	15402308	Walderstown	farmyard complex	T4	4891	4-5km	4	Not Significa nt
68	15401609	Ardnacrany North	house	T1	4894	4-5km	2	Not Significa nt

Ma p ID	NIAH	Td.	Structure	Neares t Turbine	Distanc e to Turbine (m)	Categor y	No. of Turbines visible on ZTV	Potential Effect on Setting
69	15403018	Ballinderry (Clonlonan By.)	outbuilding; stables	T9	4948	4-5km	9	Not Significant
70	15403017	Ballinderry (Clonlonan By.)	country house	T9	4991	4-5km	9	Not Significant

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual impact will be Imperceptible.

Significance of Effects

The overall significance of effects will be Slight - Significant. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether.

13.4.3.7 Features of Local Cultural Heritage Merit

13.4.3.7.1 Umma House and outbuildings

Pre-mitigation Effect

Umma House is located 310m west of the proposed turbine T8. The house is derelict and has been modernised with a slate roof and boarded windows. The structure is marked on the 25inch OS Historic map and also the 1st Edition OS map of the late 1800s. Umma House is shown on the western side of the small demesne on the earlier 1st Edition map whereas it is marked at the East on the later 25 inch edition. The outbuildings associated with the house still stand to some degree although are in a state of disrepair also. Neither structures are listed in the Record of Protected Structures or the NIAH and are considered to be of low architectural merit albeit of local cultural heritage value. The setting of the structures will change but since the structure is not subject to statutory protection by way of inclusion in the Record of Protected Structures, it is not considered to be of high architectural value but of local cultural heritage merit. Impacts on setting will arise but are considered to be Not Significant.

Mitigation Measures

It is not possible to provide a mitigation measure which would alleviate this potential impact.

Residual Effect

Since no mitigation measures are being proposed the residual impact will be Not Significant.

13.5 Cumulative Impacts

Cumulative impact is defined as ‘The addition of many small impacts to create one larger, more significant, impact’ (EPA 2022). Cumulative effects encompass the combined effects of multiple developments or activities on a range of receptors. In this case, the receptors are the archaeological monuments and architectural/cultural heritage sites in the vicinity of the Proposed Development. The potential cumulative impacts between and the Proposed Development the other plans and projects described in Chapter 2, Section 2.7 of the EIAR, hereafter referred to as the other projects, have been considered in terms of impacts on archaeology and cultural heritage. Developments such as dwelling houses and farm buildings are not considered to contribute to cumulative effects although were reviewed as part of the assessment.

The projects considered in relation to the potential for in combination impacts arising from construction, operational and decommissioning phases of the Proposed Development and for which all relevant data was reviewed include those listed below:

13.5.1 Arterial Drainage Maintenance

The Brosna Arterial Drainage Scheme (which is still live) exists within the application site. The Office of Public Works (OPW) carried out several Arterial Drainage Schemes on catchments under the Arterial Drainage Act, 1945. Under section 37 of the 1945 Act, the OPW is required to maintain drainage works in proper repair and effective condition. These drainage works include watercourses, embankments and other structures. While the above is not a live planning application per se we acknowledge there is an ongoing maintenance works programme in place within the Wind Farm Site.

The OPW are responsible for ensuring that potential effects on archaeology are dealt with as part of the scheme and any works within the Zones of Notifications of archaeological monuments would require the OPW to obtain the necessary permissions to excavate, if necessary, thereby avoiding impacting on archaeology and having the necessary controls and mitigation in place to avoid such impacts. Excavations within the site as part of the drainage scheme as well as excavations associated with the Proposed Development may impact on sub-surface archaeological features if present and therefore potential cumulative (direct) effects may occur when considering the projects together.

No indirect visual effects will occur when both the Proposed Development and projects are considered cumulatively since the drainage works are sub-surface.

13.5.2 N52 Tullamore to Kilbeggan Link Scheme

The N52 Tullamore to Kilbeggan Link Scheme is now at the 3rd stage of the ‘Option Selection’ process in accordance with the TII Project Management Guidelines. The N52 is an important element of Ireland’s secondary road network. It links the north-east and the south-west of Ireland, from Ardee in County Louth to Nenagh in County Tipperary and services the towns of Kells, Mullingar, Tyrellspass, Kilbeggan, Tullamore and Birr.

The Emerging Preferred Route Corridor is a combination of Option 2 (Purple Corridor) and Option 3 (Orange Corridor). The Emerging Preferred Route Corridor is typically 200m wide. The 200m corridor does not represent the actual width of the road scheme or the lands to be acquired – the corridor indicates the lands within which the N52 road scheme could be developed.

TII have a rigid approach for the assessment of Archaeology, Architectural and Cultural heritage along such road schemes. All potential effects will be dealt with through the EIAR process with a suite of suitable mitigation measures to alleviate potential effects. Such mitigation measures will include avoidance, archaeological excavation, testing and monitoring.

When considered together in combination with the Proposed Development, more potential direct effects to sub-surface archaeology may arise although are dealt with overall by suitable mitigation for the road scheme.

13.5.3 Other windfarms within 25km

In order to consider all potential future scenarios, this Chapter was cognisant of all well-developed wind farm proposals with specific project specification information available in the public domain at the time of conducting this assessment. One single wind turbine (currently at planning application further information stage with Westmeath County Council) and two well developed wind farm proposals (Currently at pre-application consultation phase with An Bord Pleanála) were identified within 25km of the Proposed Development and are listed within the table below:

Table 13-21: Other windfarms within 25km

Other Wind Farms	Status	No. of Turbines	Distance from the Proposed Development
Kepak (Kilbeggan) Single Wind Turbine	Further Information requested (WCC ref: 22537)	1	18.3km South East
Lemanaghan Wind Farm	Proposed (in Public Domain)	15	16.3km South West
Derryadd Wind Farm	Proposed (in Public Domain)	25	18.7km North West

Cumulative effects arising as a result of interaction between the Proposed Development turbines and these ‘proposed’ developments (listed above) are reliant on an outcome of the planning and consenting system and there is a degree of uncertainty as to whether they will occur (or occur with differing layout and dimensions) in a future baseline scenario. For the avoidance of doubt, these proposed wind farm developments (Lemanaghan and Derryadd) have been included in this assessment. based on the information relating to these developments that is currently available in the public domain.

13.5.4 Cumulative Impacts (Direct Impacts – Construction stage)

The addition of other projects to the Proposed Development was considered in order to assess Cumulative Impacts. These included all other windfarms within 25km of the Proposed Development. Direct effects for the Proposed Development are considered to be confined to within the EIAR site boundary and relate to construction effects.

13.5.4.1 **Cumulative impacts (direct) considering other windfarms within 25km**

13.5.4.1.1 **Cumulative effects to UNESCO World Heritage sites (tentative) National Monuments in State Care, Recorded Monuments, NIAH and RPS**

No UNESCO World Heritage Sites, National Monuments in State Care, RPS structures or NIAH sites are located within the footprint of the Proposed Development and therefore no direct effects on this resource were identified when considering the Proposed Development alone. When the Proposed Development is added to other projects therefore, it does not result in direct cumulative effects since none were identified in the first place. The aforementioned cultural heritage assets are located away from the site and therefore are not capable of being directly impacted by the Proposed Development. No cumulative effects will occur therefore.

13.5.4.1.2 **Cumulative effects to Recorded Monuments (SMR sites)**

Four recorded monuments are located within the Wind Farm Site and three (which require mitigation) along the Grid Connection underground electrical cabling route. Potential direct effects were identified to SMR sites which when mitigated result in no direct effects. All monuments will either be excluded by design or subject to archaeological monitoring in the vicinity of monuments thereby eliminating any negative direct effects. Cumulative direct effects could potentially occur when the Proposed Development and all the projects are considered together, however due to effective mitigation measures being implemented, no significant cumulative effects will occur.

13.5.4.1.3 **Cumulative effects on potential unknown sub-surface sites**

The only potential direct effects identified at the construction stage of the Proposed Development are those which may occur to hitherto unknown sub-surface archaeological finds, features or deposits. This potential effect was identified as being Permanent, negative and significant. After the mitigation measures are implemented, however, these potential effects will be Not Significant. The overall significance of effects is therefore Not Significant.

The same potential construction stage effect could be identified for the other windfarm projects since groundworks could impact on hitherto unknown archaeological, finds, features or deposits or other cultural heritage assets. In this regard there could potentially be a cumulative effect when the Proposed Development is added to the other windfarm sites. Mitigation measures seek to alleviate such negative effects if not remove the effect altogether and therefore there will be no significant cumulative effects on sub-surface remains.

If the mitigation measures prescribed in this EIAR are implemented then cumulative direct effects to unknown sub-surface archaeology will not occur, regardless of the other proposed projects within 25km of the Proposed Development.

13.5.5 **Cumulative Effects (Indirect Impact on Setting)**

Indirect impacts on setting occur at the operational stage of the development (when turbines are operational). In this regard in order to assess overall cumulative effects on archaeology and cultural heritage, the Proposed Development is considered in the context of the proposed Kepak, Derryadd and Lemanaghan turbines. Other developments in the wider landscape setting as detailed in Chapter 2, Section 2.7, such as one-off rural housing and agri-buildings are not considered to have cumulative effects.

13.5.5.1 UNESCO World Heritage sites (tentative)

Ireland's Tentative list of World Heritage sites was consulted for those sites that may occur within the 25km study area from the nearest proposed turbine. When turbines are viewed together and in combination, they could potentially increase the potential effect on setting on a cultural heritage site (i.e. cumulative effect on setting). The results of the Visual and Landscape Assessment and the Zone of Theoretical Visibility were used in order to ascertain any potential cumulative effects from both the Hill of Uisneach and Clonmacnoise.

13.5.5.1.1 Hill of Uisneach

Hill of Uisneach Viewpoint 16 as presented in the LVIA Chapter 12 in particular the Rendered Wireline from the Hill of Uisneach shows that no existing or permitted turbines are visible in the view presented in the Rendered Wireline.

The proposed Kepak turbine is located at a distance of 16km south-east from this viewpoint on the Hill of Uisneach. The proposed turbine will be barely discernible from atop the Hill of Uisneach due to screening from physical features of the landscape view and the separation between the proposed Kepak turbine and the Proposed Development turbines. The separation distance will mitigate any potential cumulative effects.

The proposed Lemanaghan turbines are located at a significant distance of over 20km from this viewpoint on the Hill of Uisneach. The proposed turbines will be barely discernible from atop the Hill of Uisneach due to screening from physical features of the landscape view and the separation between the proposed Lemanaghan wind farm and the Proposed Development turbines. The separation distance will mitigate any potential cumulative effects.

The proposed Derryadd Wind Farm is likely to be located 24.6 km north-west of this viewpoint albeit in a different direction with the set back distance being the mitigating factor. It is acknowledged that occasional minor visual effects with the Proposed Development turbines may arise on a very clear day where combination effects could potentially occur. No significant cumulative visual effects will occur however.

13.5.5.1.2 Clonmacnoise

Views from Clonmacnoise are addressed in Section 13.4.3.1.2 where it is concluded that no significant effects will occur as a result of the proposed Umma More turbines due to a number of factors detailed above. Furthermore, there will be no in-combination effects when considering the proposed Umma More turbines and the Kepak, Derryadd and Lemanaghan turbines due to an overall lack of visibility.

Since no significant effects will arise as a result of the Proposed Development, then the Proposed Development will not contribute to cumulative effects on the setting of Clonmacnoise.

13.5.5.2 National Monuments in State Care

National Monuments are those recorded monuments which are in the ownership / guardianship of the Minister for Housing, Local Government and Heritage. They are frequently referred to as being in 'State Care'. National Monuments also include those which are subject to a Preservation Order.

National Monument 223 Bealin High Cross is just located in an area of the ZTV where one turbine may theoretically be visible. This is a theoretical precautionary scenario and in reality localised screening will alleviate any potential impacts on setting. The photomontage shows no turbine visibility and therefore the potential impact is imperceptible. Since potential impacts are imperceptible when considering the Proposed Development alone, cumulative effects will be minimal. The Proposed Development is located to the north-east of the monument and no other windfarms are located in this

direction. Views of Derryadd would be to the north, views of the Lemanaghan and Kepak turbines would be to the south/south-east.

National Monument 560 Dunnamona Motte is located in an area of the ZTV where eight turbines may theoretically be visible. This is a theoretical precautionary scenario as the model does not take natural screening and buildings into consideration which may in reality minimise and reduce any potential impacts on setting. The photomontage shows some limited visibility of some turbine blades and therefore the overall effect on setting is considered to be Not Significant. Similar to Bealin High Cross, the Proposed Development, the Kepak turbine, Lemanaghan Derryadd turbines are not located within the same vista when viewed from the motte thus minimising potential cumulative indirect effects.

13.5.5.3 Recorded Monuments (5km)

A total of two hundred and twenty two (222) archaeological monuments are located within 5km of the nearest proposed turbine and these are detailed in Figure 13-6 above. The monuments within the 5km study area were overlaid on the ZTV to ascertain what number of turbines may be visible from their locations. The ZTV shows that 215 of the 222 have some visibility varying from 1 turbine to 9 turbines. Both the distance to the nearest turbine and the number of turbines visible from each asset are used to arrive a level of potential effect on setting. Potential effects on setting as detailed in the table above are based on the theoretical precautionary scenario in that natural screening, boundaries, buildings and vegetation are not taken into account in the ZTV model and in reality the potential effect is likely to be less. When the Proposed Development is considered alone, the potential effects vary from Not Significant to significant depending on the number of turbines visible and the intervening distance. There are no other Proposed windfarms in the 5km study area and therefore no indirect cumulative effects will occur within this study area. The proposed Kepak, Derryadd and Lemanaghan turbines may be visible from some monuments in the 5km study area but the intervening distance is such that no significant cumulative effects on setting will occur.

13.5.5.4 Protected Structures and NIAH (5km)

A total of forty (47) protected structures and 70 NIAH are located within 5km of the nearest proposed turbine and these are detailed above. When the Proposed Development is considered alone, the potential effects vary from Not Significant to significant for both the RPS and the NIAH depending on the number of turbines visible and the intervening distance. There are no other Proposed windfarms in the 5km study area and therefore no indirect cumulative effects will occur within this study area. The proposed Kepak, Derryadd and Lemanaghan turbines may be visible from some structures in the 5km study area but the intervening distance is such that no significant cumulative effects on setting will occur.

13.6 Do Nothing Scenario

An alternative land-use option to developing a renewable energy project at the Wind Farm Site would be to leave the Site as it is, with no changes made to the current land-use practices of low intensity agriculture. The existing agriculture land use can and will continue in conjunction with this proposed use of the Site. It is not anticipated that the Do-Nothing Scenario would have any negative effects on the existing environment in terms of archaeology, architectural and cultural heritage. Land use would continue without the need for mitigation measures.

13.7 Decommissioning Phase

There will be no significant potential impacts on the archaeological, architectural and cultural heritage environment during the decommissioning of the Proposed Development. Any potential direct impacts will already have been resolved through mitigation measures during the construction phase.

13.8

Conclusion

This Archaeological and Cultural Heritage chapter was prepared by Tobar Archaeological Services. It presents the results of an archaeological, architectural and cultural heritage impact assessment of the Proposed Development.

13.8.1

Direct Effects

13.8.1.1

UNESCO sites

The Hill of Uisneach and Clonmacnoise are listed on the tentative list (2010) as part of the Royal Sites of Ireland. As they are located away from the Wind Farm Site, no direct effects will occur.

13.8.1.2

National Monuments in State Care

Three National Monuments in State Care are located within 10km from the nearest proposed turbines. As they are located away from the Wind Farm Site, no direct effects will occur.

13.8.1.3

Recorded Monuments

Four recorded monuments are located within the Wind Farm Site. Groundworks at the construction stage has the potential to directly impact the monuments thereby having a direct negative and permanent effect. The monuments are located an adequate distance from the proposed groundworks, however. Exclusion zones will be established around each monument in order to ensure their protection during the construction phase. This mitigation measure will remove the potential negative effect and include the following:

- 30m buffer zones will be maintained around the monuments the details of which should appear in the CEMP.
- No ground works or storage of materials or tracking of machinery will take place within the buffer zones

A total of two hundred and twenty two (222) archaeological monuments are located within 5km of the nearest proposed turbine and these are detailed in Table 13-7 above. Since they are located at a remove from the Wind Farm Site, no direct effects will occur.

All recorded monuments located within 100m either side of the underground electrical cabling route were assessed. Eleven monuments are located along the underground electrical cabling route. The measurements are based on the distance between the outermost element of the monument (identifiable from either aerial imagery or historic mapping) and the underground electrical cabling route. No monuments will be directly impacted by underground electrical cabling route as they are located off the public road. There are a number of instances where the underground electrical cabling route intersects the ZAP for some monuments and therefore mitigation measures will be implemented during construction works in order to avoid any negative effects arising during construction. Mitigation measures are as follows:

- Archaeological Monitoring will be carried out along the relevant sections of the Grid Connection cabling route where the route traverses through the ZAP as shown on Figure 13-17 and Figure 13-18 above which are detailed in Table 13-14 below.
- A report on the monitoring should be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.

13.8.1.4 Local Cultural Heritage

In terms of local cultural heritage assets, Umma House and associated outbuildings are located 295m west of the proposed turbine T8. The house is derelict and has been modernised with a slate roof and boarded windows. The setting of the structures will change but since the structure is not subject to statutory protection by way of inclusion in the Record of Protected Structures, it is not considered to be of high architectural value but of local cultural heritage merit. Impacts on setting will arise but are considered to be Not Significant.

13.8.1.5 Sub-surface Archaeology

Due to the nature and size of the Proposed Development in terms of excavation works the potential exists that sub-surface archaeological sites or features, if present, may be directly impacted by construction phase activities such as topsoil removal and other excavation works. This potential impact is likely to be significant, negative and permanent. The impact can be minimised if not removed altogether by the following mitigation measures.

- Pre-development archaeological testing of the proposed turbine bases, hardstands, proposed roads, compounds, substation site and any other proposed development components within the Wind Farm Site will be carried out under licence from the National Monuments Service. This is in order to identify any archaeological features at the earliest stage possible to allow time to deal with any requirements such as preservation in situ (redesign / avoidance) or preservation by record (archaeological excavation).
- A report on the testing will be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the testing.
- Archaeological Monitoring of all groundworks during construction by a licensed archaeologist.
- A report on the monitoring will be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the monitoring.

13.8.1.6 Protected Structures

No Protected Structures subject to statutory protection are located within the Wind Farm Site, therefore no direct impacts to this resource are identified.

No Protected Structures within 5km will be directly impacted since they are located away from the site. The nearest protected structure is RPS 023-001 a single-arched road bridge over the Dungolman River, built c.1855 on the southern Wind Farm Site boundary. No direct impacts to this bridge or any other RPS structure will occur therefore.

Twelve RPS structures are located within 100m of either side of the underground electrical cabling route. The excavation of the trench for the underground electrical cabling route has the potential to impact directly on some structures. The majority, however, consist of houses and buildings and will not be directly impacted by cabling works. Some mitigation measures are required and are as follows:

- Archaeological Monitoring will be carried out along the underground electrical cabling route adjacent to those structures identified in Table 13-15 above.

- A report on the monitoring should be compiled on completion of the work and submitted to the relevant authorities.
- Further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring.
- Fencing off the structure 038-064 NIAH 15403808 Milestone at Ballinderry Big prior to construction.
- Protection (in the form of traffic barriers) of the structure 031-019 NIAH 15403124 Water pump at Ballybrickoge during construction

13.8.2 Indirect Effects

13.8.2.1 UNESCO WORLD HERITAGE SITES (TENTATIVE LIST)

13.8.2.1.1 *Visibility from the Hill of Uisneach*

All turbines of the Proposed Development are likely to be visible from the top of the Hill of Uisneach where open views are permitted to the west. As shown by the Rendered Wireline as presented in Chapter 12, the proposed turbines appear as a linear array across the background of the view. At a distance of approximately 8.8km to the nearest proposed turbine, they are seen as small background features and comprise a small horizontal extent in the panoramic landscape view. This change is considered to be slight/moderate.

Visibility from Catstone

The Cat Stone is a National Monument as well as a feature of the landscape of the Hill of Uisneach and falls within an area of full theoretical visibility on the ZTV. Figure 12-33 as presented in Chapter 12, LVIA shows a Google Street View Image showing a view towards the Wind Farm Site from the Cat Stone. A scaled wireline image is shown below the Google Street View Image indicating the location, scale and form of the proposed turbines from the Cat Stone. The proposed turbines will be visible from this location but partially screened by the intervening ridgeline (and treeline upon the horizon) visible in the background of the image. This potential impact will be slight/moderate.

13.8.2.1.2 *Clonmacnoise*

The turbines (at the operational stage) have the capability to negatively impact on the setting of Clonmacnoise Archaeological complex. In this regard a number of tools were utilised to ascertain whether or not this is likely to occur. The assessment included the use of the ZTV and photowire visualisations in Chapter 12 LVIA. This assessment concluded that due to a number of factors, the overall impacts on setting would be negligible. These factors include the following:

- Clonmacnoise is located in a low-lying flat landscape therefore distant visibility from such a low-lying receptor is very limited at a distance of 23.5km.
- Many views towards the Wind Farm Site from within the site at Clonmacnoise are further limited by a line of evergreen trees enclosing the eastern graveyard as demonstrated by three photowire visualisations included in Appendix 12-5 (AltVP-L; AltVP-M; & AltVP-N).

A wireline was produced from Clonmacnoise and is presented in Figure 12-21 in the LVIA in Chapter 12.

The wireline above shows that if there are small areas of open visibility towards the Wind Farm Site, the proposed turbines would only just be discernible as small distant features and it would be very difficult to identify them within the long-ranging view. Considering the substantial set back distance, physical buffers in the intervening landscape and enclosed eastern boundary, the Proposed Development will cause an Imperceptible effect on the setting of Clonmacnoise. Although this is an

asset of very high sensitivity, on balance, it is considered that no significant visual effects will occur from Clonmacnoise.

13.8.2.2 National Monuments in State Care

13.8.2.2.1 National Monument 223 Bealin Cross High Cross

The monument is just located in an area of the ZTV where one turbine may theoretically be visible. This is a theoretical precautionary scenario and in reality, localised screening will alleviate any potential impacts on setting. The photomontage shows no turbine visibility and therefore the potential impact is imperceptible.

13.8.2.2.2 National Monument 560 Dunnamona Motte

The monument is located in an area of the ZTV where eight turbines may theoretically be visible. This is a theoretical precautionary scenario as the model does not take natural screening and buildings into consideration which may in reality minimise and reduce any potential impacts on setting. The photomontage shows some limited visibility of some turbine blades and therefore the overall effect on setting is considered to be Not Significant.

13.8.2.3 Recorded Monuments within the Wind Farm Site

Four recorded monuments are located within the Wind Farm Site. The proposed turbines have the capacity to impact on the setting of the monuments, however, field assessment shows that the monuments are largely levelled leaving no substantial trace of their outlines. In this regard, since the monuments are barely discernible, the turbines are not capable of effecting the settings since the monuments have no above ground expression. There will be no negative effect on setting therefore.

13.8.2.4 Recorded Monuments, RPS structure and NIAH in the wider study area of 5km

The overall significance of effects will vary between Slight - Significant. In reality the effect will be less severe since the ZTV model does not take natural screening and buildings into consideration which will alleviate if not remove the impact on setting altogether.

13.8.3 Cumulative Effects

Cumulative effects are also dealt with in the assessment according to each project type and cultural heritage asset (i.e. UNESCO sites, National Monuments, Recorded Monuments etc). There are no instances where significant cumulative effects will occur however.