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PLANNING

# ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR) FOR THE PROPOSED COUNNAGAPPUL WIND FARM, CO. WATERFORD

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Volume 2 – Main EIAR

Chapter 15 – Archaeology, Architectural and  
Cultural Heritage

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Prepared for:  
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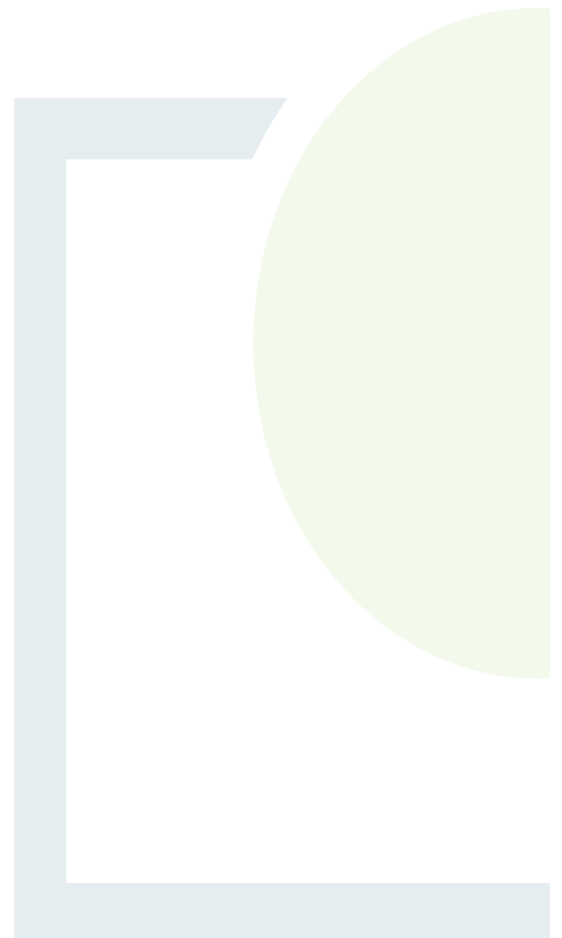
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## 15. ARCHAEOLOGY, ARCHITECTURE AND CULTURAL HERITAGE

### 15.1 Introduction

This chapter assesses the potential effects of the Project as described in Chapter 2 on the known and potential cultural heritage resource which encompasses assets relevant to both the tangible resources (archaeology and architecture heritage); and non-tangible resources (including history, folklore, tradition, language and placenames). The recorded and potential cultural heritage resource within study areas described in Section 15.2 of this chapter, which encompass the various elements of the project and surrounding lands, was assessed in order to compile a comprehensive cultural heritage context for the Proposed Development and lands in its environs.

A detailed description of the Project assessed in this EIAR is provided in Chapter 2 and comprises three main elements:

- The wind farm (hereafter referred to as the 'wind farm site' or 'Site');
- Turbine delivery route (hereafter referred to as the 'turbine delivery route' or 'TDR');
- Grid connection (hereafter referred to as the 'grid connection route or 'GCR');

The layout of the proposed wind farm site (Site), grid connection (GCR) and turbine delivery route (TDR) are presented in Figures 3.2 to 3.4 in Volume IV.

As described in Chapter 2, the Site includes the wind turbines, internal access tracks, hard standings, meteorological mast, onsite substation, internal electrical and communications cabling, temporary construction compound, drainage infrastructure and all other associated works related to the construction of the wind farm. The GCR will comprise a buried grid cable that will extend to the existing Dungarvan substation and the majority of the route extends along the public road network. The TDR will entail use of the public road network extending to the Site from Waterford Port and the chapter assesses potential effects arising from localised work areas that will facilitate this aspect of the Project.

The plans and particulars submitted with this application for consent provide dimensions for the turbine structures. The turbine specifications will have a hub height of 104 m and a rotor diameter of 162 m with a tip height of 185m. This assessment considers the Vestas V162 wind turbine model which aligns with the abovementioned plans and particulars.

### 15.2 Statement of Authority

The chapter was prepared by Tony Cummins and David Murphy of John Cronin Associates. Mr. Cummins has been a Senior Archaeologist with John Cronin & Associates since 2009. He holds B.A. and M.A. degrees in archaeology (University College Cork (UCC) 1992/1994) and has accumulated twenty-eight years' continuous professional experience. He has extensive experience in preparing impact assessments for a variety of renewable energy projects which has included carrying out programmes of desktop research and field surveys as well as liaising with design teams and relevant local and national authorities. He carried out desktop research and field inspections for the Coumragappul project and was the principal author of the EIAR chapter. Mr. Murphy holds a BA degree in archaeology (UCC 2003) and has accumulated nineteen years' industry experience. He contributed to the programme of field inspections carried out as part of the assessment of the Project.



## 15.3 Assessment Methodology

### 15.3.1 Introduction

The methodology used for this assessment was in accordance with Environmental Protection Agency (2022) *Guidelines for Information to be Contained in EIAR*. The chapter complies with the requirements of Directive 2011/92/EU as amended by Directive 2014/52/EU, the Planning and Development Act, 2000 (as amended) and the Planning and Development Regulations, 2001 (as amended). The assessment has also been carried out in accordance with guidelines for the assessment of impacts on the cultural heritage resource published in the International Council on Monuments and Sites *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011)

The assessment was based on a programme of desk-based research combined with site inspections and these studies were undertaken to identify any known or potential sites or features of archaeological, architectural or cultural heritage significance likely to be impacted by the Proposed Development.

There are no professional guidelines which define the extent of study areas required to assess the effects of wind farm developments on the cultural heritage resource. The extent of the study areas used for this assessment are, therefore, informed by the years of experience and professional judgement of the specialist and are considered suitable for the assessment of potential effects. The study area reviewed for the assessment comprised the lands within the Site and the surrounding lands extending for 1km in all directions beyond its boundary as well as a 100m wide area centred on the GCR and work areas required to facilitate the delivery of turbines to the Site. The extent of the 1km study area is suitable as it facilitated the compilation of a baseline context for the known cultural heritage resource within the Site and its surrounds which informed the assessment of potential direct and indirect effects of potential medium-high magnitude on the locations and settings of known cultural heritage assets within this area. The extent of the 100m wide study area centred on the GCR and TDR work areas was chosen in order to appraise if there are any known cultural heritage constraints within their localised footprints or close environs, including potential sub-surface remains which may be susceptible to direct or indirect effects. The study area contains various cultural heritage constraints which are located within inaccessible private properties. The assessment of these constraints was informed by visual appraisals of examples visible from public roadways and information gathered during the desktop study, including reviews of published inventory descriptions, historic maps and modern aerial/satellite imagery.

The Landscape and Visual Impact Assessment (Chapter 16) includes the results of an appraisal of potential visual impacts on publicly accessible heritage receptors within the wider landscape extending for 20km in all directions from the Site. A desktop review of other cultural heritage assets in private lands within 10km of the Site which have potential visual attributes that extend beyond their immediate settings, such as National Monuments and archaeological monuments with ritual visual alignments across the wider landscape (e.g., stone circles, stone rows and megalithic tombs) was carried out as part of the cultural heritage assessment. This desktop review is not intended to comprise a visual impact assessment, as such monuments are located in private lands not accessible to the public and, therefore, views from their locations could not be appraised, but it was carried out to review the potential for any likely significant intrusions on monument attributes such as recorded alignments across the wider landscape. The extent of this 10km area was chosen in order to appraise if the wider landscape contains individual or groupings of such visually sensitive cultural heritage constraints that may be susceptible to potential medium-to-high magnitudes of indirect effects on their wider settings or alignments. As the relevant monuments within the 10km area are located within private lands the desktop review was based on examinations of Archaeological Survey of Ireland descriptions of their existing morphology and recorded alignments combined with their locations in relation to the Site, including considerations of local topographical factors. This review also informed the assessment of potential cumulative effects with other developments in the wider landscape.





### 15.3.2 Desktop Study

There were no difficulties in compiling information encountered during the compilation of this assessment. Section 15.4 of the chapter presents the results of the desktop study of relevant published sources and datasets which was carried out in order to identify all recorded and potential archaeological, architectural and other cultural heritage sites/features/areas within the environs of the Project. The principal sources reviewed for the assessment of the known archaeological resource were the Sites and Monuments Record (SMR) and the Record of Monuments and Places (RMP). The County Waterford Record of Protected Structures (RPS) and the National Inventory of Architectural Heritage (NIAH) were consulted in relation to the designated architectural heritage resource. Details on the legal and planning frameworks designed to protect these elements of the cultural heritage resource are provided in Section 15.4.2. A cultural heritage constraint study based on the results of a review of these sources, which included mapping of the locations of known archaeological sites, was prepared for the design team at the outset in order to assist in the development of a wind farm layout that avoided their locations.

Other sources consulted as part of the assessment included the following:

#### *Development Plan*

The Waterford City and County Development Plan 2022-2028<sup>1</sup> was consulted as part of the assessment. This publication outlines the Council's policies for the conservation of the archaeological, architectural and cultural heritage resource within the county and includes the Record of Protected Structures (RPS) as well as designated Architectural Conservation Areas (ACA).

#### *Archaeological Inventory of County Waterford*

This publication presents summary descriptions of the recorded archaeological sites within the county and the relevant entries are included within the chapter. In addition, the current national online database resources pertaining to same were reviewed on the National Monuments Service's Historical Environment Viewer ([www.archaeology.ie](http://www.archaeology.ie)) in October 2023.

#### *Heritage Council of Ireland: Heritage Map Viewer*

This online mapping source ([www.heritagemaps.ie](http://www.heritagemaps.ie)) collates various cultural heritage datasets provided by, among others, the National Monuments Service, the National Museum of Ireland, local authorities, the Royal Academy of Ireland and the Office of Public Works and was reviewed in October 2023.

#### *Database of Irish Excavation Reports*

The Database of Irish Excavation Reports contains summary accounts of all archaeological excavations carried out in Ireland (North and South) from 1969 to present. Current data was accessed via [www.excavations.ie](http://www.excavations.ie) in October 2023.

#### *National Museum of Ireland (NMI) Topographical Files*

An inspection of the NMI topographical file archive held in the Museum premises in Kildare Street, Dublin was carried out as part of the assessment. These files contain information on the archaeological artefacts in the collections of the NMI and include any recorded information on their locations and the circumstances of their discovery. The archive contains no entries for any townlands that extend within the boundary of the wind farm site.

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<sup>1</sup> <https://consult.waterfordcouncil.ie/en/consultation/draft-waterford-city-and-county-development-plan-2022-2028>



### *Literary Sources*

Various published sources were consulted in order to assess the archaeological, historical, architectural heritage and folklore record of the study area and these are listed in Section 15.9 of this chapter.

### *Historic Maps*

A review of various historic map editions published by the Ordnance Survey from the mid-19th century onward was carried out. These sources can indicate the presence of past settlement patterns, including features of archaeological and architectural heritage significance that no longer have any surface expression. Extracts from the reviewed maps are presented in Volume IV (Figures 15.3 and 15.4).

### *Aerial and Satellite Imagery*

A review of available imagery of the study area was undertaken in order to review the extent of modern interventions and to ascertain if any traces of undesignated cultural heritage features, including sub-surface archaeological sites, were visible.

### *Irish National Folklore Collection*

Transcribed material from the National Folklore Collection archive which has been digitised and published online at [www.duchas.ie](http://www.duchas.ie) was reviewed in October 2023.

### *UNESCO World Heritage Sites and Tentative List*

There are two designated World Heritage sites in Ireland and a number of other significant examples have been included in a Tentative List (2022) that has been put forward by Ireland for inclusion<sup>2</sup> None of the designated or tentative World Heritage sites are located within County Waterford and the nearest example, Rock of Cashel, is located c.34km to the north of the Site in County Tipperary.

## 15.3.3 Field Surveys

Field surveys of the Project were carried out in September 2021, December 2022, April 2023 and August 2023 and these comprised non-invasive visual inspections of the Site, the GCR and sections of the TDR where ground works are proposed. The inspected lands were assessed in terms of historic landscape, existing land use and the potential for the presence and survival of unrecorded archaeological and undesignated architectural heritage sites/features. The results of the field surveys are described within Section 15.3.4 while annotated extracts from the photographic record are provided in Appendix 15.1, Volume III.

## 15.3.4 Consultation

A scoping report was also issued to the National Monuments Service through the Development Applications Unit (DAU) (G Pre00207/2021). A receipt of this consultation information was acknowledged by the DAU. While a consultation response was returned in relation to nature conservation, no observations or recommendations in relation to archaeology, architectural or cultural heritage were received from the DAU during the consultation process.

In their scoping consultation response, May 2022, Waterford City and County Council noted that vernacular heritage features such as historic bridges, wells, mile markers and stone depots should be recorded and assessed for potential effects where they occur along haul routes. The potential for significant effects on Undesignated Cultural Heritage Assets from the Proposed Development is discussed throughout this Chapter.

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<sup>2</sup> <https://www.worldheritageireland.ie/home/>



Further details of project scoping and consultation can be found in Chapter 5.

### 15.3.5 Assessment of Effects

The following provides a summary of the criteria used to assess effects in order to concisely outline the methodology specifically applied to the cultural heritage resource which complies with relevant EPA and ICOMOS guidelines (see **Section 15.2.1**).

The duration of effects is assessed based on the following criteria:

- Momentary (seconds to minutes)
- Brief < 1 day
- Temporary <1 year
- Short-term 1-7 years
- Medium Term 7-15 years
- Long Term 15-60 years
- Permanent > 60 years
- Reversible: Effects that can be undone, for example through remediation or restoration

#### *Quality of Effect*

The quality of an effect on the cultural heritage resource can be positive, neutral or negative:

- Positive Effect – a change which improves the quality of the cultural heritage environment (e.g., increasing amenity value of a site in terms of managed access, signage, presentation etc. or high-quality conservation/restoration and re-use of an otherwise vulnerable derelict structure).
- Neutral Effect – no change or effects that are imperceptible, within the normal bounds of variation for the cultural heritage environment.
- Negative / Adverse Effect – a change which reduces the quality of the cultural heritage resource (e.g., visual intrusion on the setting of an asset, physical intrusion on features/setting of a site etc.)

#### *Type of Effect*

The types of effect on the cultural heritage resource can be described as follows:

- Direct Effect – where a cultural heritage site is physically located within the footprint of the Project, which will result in its complete or partial removal.
- Indirect Effect – Effects on the cultural heritage environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.
- Cumulative Effect -The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.
- ‘Do-nothing Effects’ - The cultural heritage environment as it would be in the future should the Project not be carried out.
- ‘Worst-case’ Effects - The effects arising from a Project in the case where mitigation measures substantially fail.



- Indeterminable Effects - When the full consequences of a change in the environment cannot be described.
- Irreversible Effects - When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
- Residual Effects - The degree of environmental change that will occur after the proposed mitigation measures have taken effect.

### Magnitude of Effect

The magnitude of effect is based on the degree of change, incorporating any mitigation measures, on a cultural heritage asset and can be negative or positive. The magnitude is ranked without regard to the value of the asset according to the following scale: High; Medium; Low and Negligible and has been informed by criteria published in the International Council on Monuments and Sites *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011) (Table 15.1).

**Table 15.1: Magnitudes of Effect on Cultural Heritage Assets (per ICOMOS 2011)**

Magnitude	Description
High	<p>Most or all key archaeological or architectural materials affected such that the resource is totally altered.</p> <p>Comprehensive changes to setting.</p> <p>Changes to most or all key historic landscape elements, parcels or components; extreme visual effects; fundamental changes to use or access; resulting in total change to historic landscape character unit</p> <p>Major changes to area that affect Intangible Cultural Heritage activities or associations or visual links and cultural appreciation</p>
Medium	<p>Changes to many key archaeological or historic building materials/elements such that the resource is clearly/significantly modified.</p> <p>Considerable changes to setting that affect the character of the archaeological asset.</p> <p>Changes to the setting of a historic building, such that it is significantly modified.</p> <p>Change to many key historic landscape elements, parcels or components, visual change to many key aspects of the historic landscape, considerable changes to use or access, resulting in moderate changes to historic landscape character.</p> <p>Considerable changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>
Low	<p>Changes to key archaeological materials/historic building elements, such that the resource is slightly altered/slightly different.</p> <p>Slight changes to setting of an archaeological monument.</p> <p>Changes to setting of a historic building, such that it is noticeably changed.</p> <p>Changes to few key historic landscape elements, parcels or components; slight visual changes to few key aspects of historic landscape; slight changes to use or access; resulting in limited change to historic landscape character.</p> <p>Changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>



Magnitude	Description
Negligible	<p>Very minor changes to key archaeological materials or setting.</p> <p>Slight changes to historic building elements or setting that hardly affect it.</p> <p>Very minor changes to key historic landscape elements, parcels or components; virtually unchanged visual effects; very slight changes to use or access; resulting in very small change to historic landscape character.</p> <p>Very minor changes to area that affect the Intangible Cultural Heritage activities or associations or visual links and cultural appreciation.</p>

#### Value assessment criteria

While various national and local authority legal designations exist for elements of the Irish cultural heritage resource (see Section 15.3.2), there is no formal criteria for grading the value of individual assets. The non-statutory National Inventory of Architectural Heritage (NIAH) does apply a ranking system (Local, Regional, National and International) to structures included in that inventory and, while these rankings do not confer a graduated level of protection they have been utilised as a value indicator for NIAH-listed structures for the purpose of this assessment.

Given the absence of formal criteria the evaluations used in this assessment have been informed by guidelines presented in the *Guidance on Heritage Impact Assessments for Cultural World Heritage Properties* (ICOMOS 2011). The evaluation of the values of cultural heritage assets is, therefore, not intended as definitive but rather as an indicator which contributes to a wider judgment based the individual circumstances of each asset. The application of values included a consideration of their legal designations (e.g., National Monuments in State Care), condition/preservation; documentary/historical significance, group value, rarity, visibility in the landscape, fragility/vulnerability and amenity value on a case-by-case basis.

It is noted that archaeological monuments, whether extant or levelled, have the potential to possess sub-surface attributes, including artefacts and other archaeological remains, which may possess values that cannot be discerned without recourse to archaeological excavation but are unlikely to be affected in the absence of direct negative effects. The values of known or potential cultural heritage assets are ranked according to the following scale as defined by ICOMOS: Very High; High; Medium; Low, Negligible and Unknown (Table 15.2). The values assigned to relevant assets within the study area were determined following the completion of desktop research and site inspections and are outlined in Section 15.5.

**Table 15.2: Indicative factors for assessing the Value of Cultural Heritage Assets (per ICOMOS 2011)**

Indicative Value	Example of Asset Types
Very High (International Significance)	<p>World Heritage Sites (including Tentative List properties)</p> <p>Sites, buildings or landscapes of acknowledged international importance</p> <p>Intangible associations with individuals or innovations of global significance</p>
High (National Significance)	<p>Nationally designated sites, buildings and landscapes of significant quality, rarity, preservation and importance</p> <p>Undesignated assets of the quality and importance to be designated</p> <p>Assets that can contribute significantly to acknowledged national research objectives</p> <p>Archaeological Landscapes with significant group value</p> <p>Intangible associations with individuals or innovations of national significance</p>



Indicative Value	Example of Asset Types
Medium (Regional Significance)	Designated or undesignated assets that can contribute significantly to regional research objectives, including buildings that can be shown to have exceptional qualities in their fabric or historical associations. Conservation Areas and historic townscapes containing buildings that contribute significantly to its historic character. Intangible associations with individuals or innovations of regional significance
Low (Local Significance)	Assets compromised by poor preservation and/or poor survival of contextual associations Assets of limited value, but with potential to contribute to local research objectives Historic Townscape or built-up areas of limited historic integrity in their buildings and settings Intangible associations with individuals or innovations of local significance
Negligible	Assets with very little or no surviving archaeological interest Landscapes little or no significant historical interest Buildings or urban areas of no architectural or historical note; buildings of an intrusive character
Unknown Potential	Assets whose importance has not been ascertained Buildings with some hidden (i.e. inaccessible) potential for historic significance

### Significance of Effects

The significance of effect can be described as Profound, Very Significant, Significant, Moderate, Slight, Not Significant or Imperceptible (Table 15.3) and is assigned based on the combined evaluation of effect magnitude and asset values (Table 15.4).

**Table 15.3: Significance of Effects (per EPA EIAR Guidelines 2022)**

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



**Table 15.4: Significance of Effects Matrix (after EPA EIAR Guidelines 2022)**

Magnitude of Effect	High	Not Significant/ Slight	Moderate/ Significant	Significant/ Significant	Very	Very Profound	Significant/ Very
	Medium	Not Significant	Slight	Moderate/ Significant		Significant/ significant	Very
	Low	Not Significant/ Imperceptible	Slight/ Not Significant	Slight		Moderate	
	Negligible	Imperceptible	Not Significant/ Imperceptible	Not Significant/ Slight		Slight	
		Negligible	Low	Medium		High/Very High	
		<b>Value/Sensitivity of the Asset</b>					

## 15.4 Existing Environment

### 15.4.1 Introduction

The following sections present summaries of the legal and planning frameworks designed to protect the cultural heritage resource followed by details on the known and potential cultural heritage resource collated during the desktop studies and field inspections carried out as part of the assessment.

### 15.4.2 Legal and Planning Context

The tangible elements of the cultural heritage resource can be loosely divided into the archaeological resource comprising sites and monuments dating from the prehistoric period to the post-medieval period and the architectural heritage resource, encompassing standing structures and sites of cultural importance often dating to the post-medieval and modern periods. In addition, local place names, folklore and traditions are considered part of the intangible cultural heritage resource. The management and protection of the cultural heritage resource in Ireland is achieved through a framework of international conventions and national laws and policies. This framework was established in accordance with the provisions of the 'European Convention on the Protection of the Archaeological Heritage' (the Valletta Convention) and the 'European Convention on the Protection of Architectural Heritage' (Grenada Convention) which were ratified by Ireland in 1997. In addition, the UNESCO 'Convention for the Safeguarding of the Intangible Cultural Heritage', 2003, was ratified by Ireland in 2015. The relevant legislation and guidelines relevant to this assessment include the following:

- National Monuments Act 1930 as amended
- Heritage Act (1995) as amended
- National Cultural Institutions Act (1997) as amended
- Architectural Heritage (National Inventory) and Historic Monuments (Misc.) Provisions Act (1999).
- Planning and Development Act (2000) as amended.
- Department of Arts, Heritage and Gaeltacht (2011) *Architectural Heritage Protection: Guidelines for Planning Authorities*.



- Department of Arts, Heritage, Gaeltacht and the Islands (1999) *Framework and Principles for the Protection of Archaeological Heritage*.
- Office of the Public Regulator (2022) *A Guide to Architectural Heritage*
- Office of the Public Regulator (2021) *Archaeology in the Planning Process*

The National Monuments Service (NMS), currently based in the Department of Housing, Local Government and Heritage, is responsible for the preservation, protection and promotion of Ireland’s archaeological heritage<sup>3</sup>. Details on current national planning policy in relation to the protection of the archaeological resource is provided in the *Archaeology in the Planning Process* published by the Office of the Planning Regulator and Department of Housing, Local Government and Heritage (DHLGH)<sup>4</sup>.

The National Monuments Acts 1930 as amended, the Heritage Act 1995 as amended and relevant provisions of the National Cultural Institutions Act 1997 are the primary means of ensuring the satisfactory protection of archaeological remains. There are a number of mechanisms under the National Monuments Acts that are applied to secure the protection of archaeological monuments. These include the designation of National Monument status to examples considered to be of national significant as well as listing monuments in the Register of Historic Monuments (RHM), the Record of Monuments and Places (RMP) and the Sites and Monuments Record (SMR). In addition, the Appropriate Minister may also place Preservation Orders and Temporary Preservation Orders on endangered sites.

A National Monument is described as ‘a monument or the remains of a monument, the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto’ (Section 2, National Monument Act 1930). A desktop review of published datasets of National Monuments in State Care in Counties Waterford<sup>5</sup> and Tipperary<sup>6</sup>, the border of which is located c.7km to the west of the Site, was carried out and this revealed that there are no examples located within 10km of the Site.

The Record of Monuments and Places (RMP) comprise lists and maps of all known archaeological monuments and places for each county in the State. It was established under Section 12(1) of the National Monuments (Amendment) Act 1994 and was based on the Register of Historic Monuments (RHM) and Sites and Monuments Record (SMR). All archaeological sites listed in the RMP receive statutory protection under the National Monuments Act 1994 and no works can be undertaken at their locations, without providing two months advance notice to the NMS. The “zones of notification” shown around RMP sites on the National Monument Service’s online Historic Environment Viewer (and drawn on RMP maps) do not comprise formal buffer zones but are intended to indicate that archaeological considerations may be an important aspect in the consideration of any development proposed within the environs of a recorded archaeological site<sup>7</sup>. In some instances, recorded sites can be reclassified as ‘redundant records’ by the Archaeological Survey of Ireland when inspections of their locations have revealed that they are not archaeological in origin. These records typically do not have surrounding zones of notification on the Historic Environment Viewer mapping.

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<sup>3</sup><https://www.archaeology.ie/sites/default/files/media/publications/NMS%20-%20Managing%20and%20Protecting%20Ireland%27s%20Archaeological%20Heritage%202013.pdf>

<sup>4</sup> <https://www.archaeology.ie/sites/default/files/media/publications/archaeology-planning-process-pl13.pdf>

<sup>5</sup> <https://www.archaeology.ie/sites/default/files/media/pdf/monuments-in-state-care-waterford.pdf>

<sup>6</sup> <https://www.archaeology.ie/sites/default/files/media/pdf/monuments-in-state-care-tipperary-south.pdf>

<sup>7</sup> <https://www.archaeology.ie/sites/default/files/media/publications/archaeology-planning-process-pl13.pdf>





As detailed in Section 15.4.3, the Site contains two recorded archaeological sites and both of these have been reclassified as ‘redundant records’ by the Archaeological Survey of Ireland as they have concluded that no archaeological sites exist at their locations. The locations of the two ‘redundant records’ within the Site were inspected during the assessment to confirm that no archaeological sites exist at their locations. Details on the recorded archaeological monuments within the Site and lands extending for 1km from its boundary are provided in Section 15.3.3, which includes their inventory entries as published by the Archaeological Survey of Ireland (ASI).

The protection of architectural heritage is provided for through a range of legal instruments that include the Heritage Act 1995, the Architectural Heritage (National Inventory) and National Monuments (Misc. Provisions) Act 1999, and the Planning and Development Act 2000.

Section 2(1) of the Heritage Act 1995, defines architectural heritage as including:

*All structures, buildings, traditional and designed, and groups of buildings including streetscapes 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, and, without prejudice to the generality of the foregoing, includes railways and related buildings and structures and any place comprising the remains or traces of any such railway, building or structure.*

The Planning and Development Act 2000 (as amended) requires Planning Authorities to keep a ‘Record of Protected Structures’ (RPS) of buildings and other structures that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. All structures listed for protection in current Development Plans, have become Protected Structures and planning permission is required for any works to such structures that would affect their character. A protected structure also includes the land and other structures within its curtilage. While the notion of curtilage is not defined by legislation, the *Architectural Heritage Protection Guidelines for Local Authorities* (Dept. Arts, Heritage and the Gaeltacht 2011), describes it as the parcel of land immediately associated with a structure and which is (or was) in use for the purposes of the structure. The Planning and Development Act 2000 also provides for the inclusion of objectives for preserving the character of places, areas, groups of structures or townscapes of special interest designated as Architectural Conservation Areas (ACAs). The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999 established the National Inventory of Architectural Heritage (NIAH), including the NIAH Historic Gardens and Designed Landscapes, to create a record of built heritage structures and associated lands within the State. While inclusion in a NIAH inventory does not provide statutory protection to a structure, the inventory is intended to advise local authorities on the compilation of their Records of Protected Structures.

There are no Protected Structures or NIAH-listed buildings, or historic gardens/landscapes located in the Site or within 1km of its boundary. There are a number of examples located within properties located within a 100m wide corridor centred on the roadways along grid connection route and these are detailed in Section 15.4.3.3.

The Waterford City and County Development Plan 2022-2028 outlines the Council’s policies for the conservation of the archaeological and architectural heritage resource within the county and includes a list of Record of Protected Structures (RPS) as well as designated Architectural Conservation Areas (ACA) . The Development Plan presents a wide range of objectives in relation to the protection of the architectural heritage resource within the county including the protection of Protected Structures (Policy BH01), Architectural Conservation Areas (BH05), historic demesnes (BH18), industrial heritage (BH21) and vernacular buildings (BH24). The Plan also presents a range of objectives in relation to the protection of the archaeological resource, and these include the protection of recorded archaeological sites (AH1) as well as the following objectives in relation to development (Objectives AH3 and AH4):



*“AH3: Waterford City & County Council shall, in an appropriate manner, secure either by preservation in-situ or preservation-by-record, the archaeological heritage. In this regard priority shall be given to the preservation in-situ of any archaeological monument/site/place as the first option considered. If preservation in-situ cannot be achieved, or can only be achieved in-part, then preservation-by-record of elements of the archaeological heritage will be required –this will require the full archaeological excavation and recording of the monument/site, according to best professional practice. Where excavation is required this shall also include the preparation of appropriate reports, post-excavation analyses and publications. The costs of assessing and mitigating archaeological impacts shall form part of development costs as borne by the developer.*

*AH4: Ensure that development in the vicinity of a site of archaeological interest shall be designed and sited sympathetically and shall not be detrimental to the character of the archaeological site or its setting by reason of its location, scale, bulk or detailing. When considering development in the vicinity of all archaeological sites including remnants of the city and town walls, the planning authority will require the preparation of an archaeological assessment detailing the potential impact of any development on upstanding structures, buried structures and deposits. The report will also include a visual impact assessment to ensure adequate consideration of any potential visual impact the proposed development may have on any upstanding remains...”.*

### 15.4.3 Desktop Study

#### 15.4.3.1 *Introduction*

The following sections presents summary details of the main periods within the Irish archaeological record with references to known archaeological sites, designated architectural heritage structures (RPS and NIAH) and identified undesignated cultural heritage assets located within the study areas around the Site (Section 15.4.3.2), grid connection route (Section 15.4.3.3) and turbine delivery route work areas (Section 15.4.3.4). Datasets have been interrogated and retrieved from current state and local authority sources and are considered accurate at the time of writing in October 2023. The published inventory entries of all recorded archaeological sites and designated architectural heritage structures within the study areas for the Site and the GCR and TDR work areas are also presented. Summary details on the origins, nature and function of the various monument types are included along with references to relevant published material that will provide further information to the general reader.

The dating framework used for each period of the archaeological record is based on the *Guidelines for Authors of Reports on Archaeological Excavations* as published by the National Monuments Service<sup>8</sup>.

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<sup>8</sup> <https://www.archaeology.ie/sites/default/files/media/publications/excavation-reports-guidelines-for-authors.pdf>



#### 15.4.3.2 Wind Farm Site

The Archaeological Survey of Ireland has classified the two recorded archaeological sites (WA014-042---- & WA014-044----) located within the Site as ‘redundant records’ as they have concluded that neither are archaeological in origin. There are an additional 28 recorded archaeological sites, two of which are redundant records, located within lands extending for 1km in all directions from the Site boundary (Table 15.5 and Volume IV; Figure 15.1). As described below, the majority of the archaeological sites in the surrounding study area, which can be assigned to likely archaeological periods based on their recorded classifications, date to late prehistoric periods. The study area also contains a number of archaeological site types, such as enclosures, huts and cairns, that may conceivably date to any period from prehistory to recent centuries and the determination of their origins is not possible without recourse to systematic archaeological excavation.

There are no National Monuments in State Ownership/Guardianship or World Heritage Sites (including tentative list sites) located within 10km of the Site.

There are ten extant prehistoric archaeological monuments with potential visual alignments located in private lands within 10km of the Site, and these comprise three standing stone pairs, six stone rows and one unclassified megalithic tomb, and a review of their locations and orientations, as recorded by the Archaeological Survey of Ireland, is presented below (Table 15-6).

There are no Protected Structures, Architectural Conservation Areas or structures/lands included in the National Inventory of Architectural Heritage located within the Site or in the surrounding 1km study area.



**Table 15.5: Known archaeological sites within Site and 1km study area extending from its boundary**

Monument No.	Class & Condition (based on ASI records)	Townland	ITM ref	Within Site Boundary?	Approx. distance to nearest development areas
WA014-047-- --	Booley hut (extant)	BLEANTASOUR MOUNTAIN	623390, 608281	No	345m west of T12 325m west of T12 hardstand
WA005-046-- --	Burnt mound (levelled)	KNOCKAVANNIA	623183, 611325	No	1390m northwest of T1 935m northwest of access road
WA014-055-- --	Cairn – unclassified (extant)	BARRACREEMOUNTAIN UPPER	626857, 607225	No	1,720m southeast of T11 1,710m southeast of T11 hardstand
WA014-043-- --	Cairn – unclassified (extant)	TOOREENMOUNTAIN	624745, 610180	No	310m east of T2 100m northeast of access road
WA014-030002-	Cairn field (extant)	CARRIGBRACK	624810, 607701	No	250m west of T11 90m south of access road
WA006-022004-	Cist (extant within forestry plantation)	TOOREEN EAST	624487, 611555	No	1,310m north of T2 1,070m north of access road
WA005-028-- --	Enclosure (partially levelled)	KILKEANY	622908, 611308	No	1,500m northwest of T1 1,100m northwest of access road
WA006-026-- --	Enclosure (extant)	TOOREEN EAST	624910, 611180	No	1,010m north of T2 850m northeast of access road
WA014-030003-	Field boundary (extant)	CARRIGBRACK	624789, 607663	No	350m south of T10 290m south of access road
WA006-025-- --	Fulacht fia (extant within forestry plantation)	TOOREEN EAST	624788, 611539	No	1,315m northeast of T2 1,080m northeast of access road
WA006-050-- --	Fulacht fia (extant)	TOOREEN EAST	624794, 611314	No	1,100m northeast of T2 880m northeast of access road



Monument No.	Class & Condition (based on ASI records)	Townland	ITM ref	Within Site Boundary?	Approx. distance to nearest development areas
WA006-051-- --	Fulacht fia (extant)	TOOREEN EAST	624857, 611354	No	1,160m northeast of T2 880m northeast of access road
WA006-056-- --	Fulacht fia (extant)	KNOCKAVANNIA	623560, 611072	No	1.020m northwest of T1 560m northwest of access road
WA014- 030001-	Fulacht fia (extant)	CARRIGBRACK	624777, 607589	No	425m south of T10 360m south of access road
WA014-053-- --	House (levelled)	CARRIGBRACK	624295, 607914	No	450m west of T10 380m west of T10 hardstand
WA006- 024001-	Kerb circle (extant within forestry plantation)	TOOREEN EAST	624825, 611723	No	1,495m northeast of T2 1,285m northeast of access road
WA006- 023002-	Redundant record (non- archaeological)	TOOREEN WEST	624604, 611770	No	1,510m north of T2 1,280m north of access road
WA006- 024002-	Redundant record (part of kerb circle WA006- 024001-)	TOOREEN EAST	624825, 611723	No	1,495m northeast of T2 1,285m northeast of access road
WA014-042-- --	Redundant record (non- archaeological)	COUMNAGAPPUL	624607, 610151	Yes	190m southeast of T2 10m south of access road
WA014-044-- --	Redundant record (non- archaeological)	COUMNAGAPPUL	624847, 608965	Yes	35m southeast of T6 15m east of T6 hardstand
WA006- 022001-	Ring-barrow (extant within forestry plantation)	TOOREEN EAST	624487, 611557	No	1,310m north of T2 1,070m north of access road
WA006-027-- --	Ring-barrow (extant within forestry plantation)	TOOREEN EAST	625001, 611228	No	1,080m northeast of T2 915m northeast of access road



Monument No.	Class & Condition (based on ASI records)	Townland	ITM ref	Within Site Boundary?	Approx. distance to nearest development areas
WA006-021-- --	Ringfort (levelled)	KNOCKAVANNIA	623496, 611340	No	1,295m north of T1 830m north of access road
WA006-022003-	Standing stone (extant within forestry plantation)	TOOREEN EAST	624482, 611640	No	1,390m north of T2 1,140m north of access road
WA006-022005-	Standing stone (extant within forestry plantation)	TOOREEN EAST	624443, 611546	No	1,290m north of T2 1,015m north of access road
WA006-022006-	Standing stone (extant within forestry plantation)	TOOREEN EAST	624459, 611556	No	1,290m north of T2 1,015m north of access road
WA014-046-- --	Standing stone (no trace noted during site survey)	BLEANTASOUR MOUNTAIN	624157, 608797	No	450m west of T10 230m south of substation
WA006-022002-	Stone row (extant within forestry plantation)	TOOREEN EAST	624487, 611543	No	1,285m north of T2 1,055m north of access road
WA006-023001-	Stone row (extant within forestry plantation)	TOOREEN WEST	624604, 611770	No	1,510m north of T2 1,280m north of access road
WA013-007-- --	Stone row (within field wall)	REANADAMPAUN COMMONS	621953, 609341	No	1,800m west of T4 310m west of access road



### *Prehistoric Periods*

Until the recent identification of potential Palaeolithic human butchery marks on faunal remains recovered from cave locations, the earliest recorded evidence for human activity in Ireland dated to the Mesolithic period (7000–4000 BC) when groups of hunter-gatherers lived on the heavily wooded island. The archaeological record indicates that these mobile groups tended to favour coastal, lake and river shores locations which provided a transport resource and also provided elements of their varied diet. These groups did not construct any monuments that have left any above ground traces although their presence in an area can often be identified by scatters of worked flints in ploughed fields. The Neolithic period (4000-2400 BC) began with the arrival of agriculture and its establishment as the principal form of economic subsistence, which resulted in more permanent settlement patterns. As a consequence of the more settled nature of agrarian life, new site-types, such as substantial rectangular timber houses, field systems and various types of megalithic tombs, begin to appear in the archaeological record during this period. There are no recorded Mesolithic or Neolithic archaeological sites located within the study area.

Metalworking arrived in Ireland with the advent of the Bronze Age period (c. 2400–500 BC). This new technology introduced a new artefactual assemblage into the Irish archaeological record and this period was also associated with the construction of new monument types such as standing stones, stone rows, stone circles and fulachta fia. The development of new burial practices meant that the construction of funerary monuments such as cairns, barrows, boulder burials and tumuli or cists was a common practice during this period. The arrival of iron-working technology in Ireland saw the advent of the Iron Age (600 BC – 400 AD). Relatively little has been known about Iron Age settlement and ritual practices until recent decades when the corpus of evidence has been greatly increased by the discovery of sites dating to this period during archaeological investigations carried out as part of development projects. It is noted that while the vast majority of all prehistoric settlement sites leave no above ground remains their foundations and occupation deposits, which may contain artefactual and environmental remains, can often survive below modern ground surfaces. There is a notable concentration of sites that likely date to the Bronze Age, including stone rows, standing stones, barrows and a kerb circle, located within a modern forestry plantation at Tooreen East in lands to the north of the Site (Volume IV; Figure 15.1 and Table 15.5).

There are three stone rows located within the study area and this site type comprises three or more upright stones set on a straight line, generally on a northeast-southwest alignment, with their heights often descending from a tallest stone at the southwest end. Only a small number of stone rows monuments have been excavated, but examples have produced evidence for associated cremated human burials dating to the Late Bronze Age. They are often found associated with stone circle monuments and their shared dominant alignments towards the southwest quadrant indicates that they may have formed part of the same ritual tradition. While the functions of stone rows within Bronze Age society can be difficult to discern, even following archaeological excavation, they are generally considered to be markers that had a ritual, commemorative, territorial or ceremonial role. Two of the stone rows within the study area are now located within a modern forestry plantation to the north of the Site (WA006-022002- and WA006-023001-) while the other example has been incorporated into a field boundary wall in lands to the west of the Site (Figure 15.1). As detailed in the below Archaeological Survey of Ireland inventory descriptions, each of these stone rows are orientated in northeast-southwest directions and based on a review of their locations in relation to the Site, none are directly orientated towards any of the proposed turbine locations.

#### *Stone Row WA006-022002-*

*Situated on a col just S of a ring-barrow (WA006-022001-). A miniature stone row (L 2.45m) comprising three stones aligned NE-SW. The NE stone is triangular (dims. 0.3m x 0.3m; H 0.1m), the central stone is rectangular (dims. 0.35m x 0.25m; H 0.25m), and the SW stone is rectangular (dims. 0.5m x 0.2m; H 0.35m). The distances between stones from SW are 0.72m and 0.57m.*

#### *Stone row WA006-023001-*



*Situated on the S-facing slope of Tooreen Hill. Originally of four stones (L c. 5.5m), it is now reduced to three conglomerate stones aligned NE-SW (L 3.2m). The NE stone is triangular (dims. 0.75m x 0.3m; H 0.55m), the central stone is rectangular (dims. 0.6m x 0.2m; H 0.5m), and the SW stone is square (dims. 0.35m x 0.35m; H 0.6m). The distances between the stones from the SW are 1.1m and 0.9m. An outlier (dims. 0.5m x 0.25m; H 0.45m) is 2m to NW.*

*Stone Row WA013-007----*

*Situated on a broad NE-SW spur. Six stones form a row (L 7.1m) oriented NE-SW. The stones all appear to be conglomerate (dims. 0.5m x 0.45-1.2m x 0.3m; H 1.2-1.5m) and are all built into a field wall and townland boundary.*

There are four standing stones located within the study area and this site type comprises a single upright stone often with its long side aligned northeast-southwest indicating a possible association with stone row traditions. The examples within the study area have been described as below by the Archaeological Survey of Ireland. One of the standing stones (WA014-046----) is located within an area just outside the Site boundary and a visual appraisal of its recorded position indicates that it is no longer visible and may have been removed or has been potentially covered by a modern mound of rubble and soil deposited at its location at some stage after the compilation of its inventory description (see Table 15.11).

*Standing stone WA006-022003-*

*Situated in a clearing of a coniferous forest, on a slight E-W ridge in a col overlooking a ring-barrow (WA006-022001-) c. 80m to the S. This is an Old Red Sandstone conglomerate (dims. 0.6m x 0.3m; H 0.7m) oriented NE-SW.*

*Standing stone WA006-022005-*

*Situated on a col in a heather-covered clearing within a coniferous forest, between Milk Hill, an E-W spur of the Monavullagh Mountains to the S and Tooreen Hill c. 400m to the N. Old Red Sandstone upright (dims. 0.7m E-W; 0.4m N-S; H 0.35m). Standing stone (WA006-022006-) is 14m to the E and ring-barrow (WA006-022001-) is c. 35m to the SE.*

*Standing stone WA006-022006-*

*Situated on a col in a heather-covered clearing within a coniferous forest, between Milk Hill, an E-W spur of the Monavullagh Mountains to the S and Tooreen Hill c. 400m to the N. Old Red Sandstone upright (dims. 0.6m E-W; 0.4m N-S; H 0.4m). Standing stone (WA006-022005-) is c. 14m to the W and ring-barrow (WA006-022001-) is c. 20m to the E.*

*Standing stone WA014-046----*

*Situated in the N-S valley of the headwaters of the Colligan river, with the N-S river c. 70m to the E. This is a conglomerate stone with a triangular cross-section (dims. 1.2m N-S; 0.5m E-W; H 1.2m).*

There is one kerb circle located within the study area and this is located within the forestry plantation in lands to the north of the Site. These sites comprise a series of low orthostats set with their long axes on the circumference of a circular enclosed space which typically contains no internal features. While the function of these sites is unclear, they are likely of Bronze Age date and may have fulfilled some ritual role. The example within the study area has been described as follows by the Archaeological Survey of Ireland:

*Kerb circle WA006-024001-*





*Situated on the S-facing slope of Tooreen Hill, in a clearing in a coniferous forest. A circle (int. diam. 5.8m NE-SW; 5.4m NW-SE) of eleven conglomerate stones (dims. 0.4-0.8m x 0.15-0.25m; H 0.2-0.65m) with their long axes on the circumference is open (Wth 2.1m) to the NE. It had an outlier in the 1930s (NMI file) but this cannot be found now.*

There are four *fulachta fia* (approximate translation ‘cooking place of the deer’), and one burnt mound, located within the study area. These are a common site type in the Irish landscape, often found near to natural water sources, such as streams, springs or marshy areas, and are formed by spreads of heat-fractured stones within charcoal-rich deposits, which typically contain an underlying trough feature. They functioned by placing fire-heated stones into the water-filled trough, which in some instances can be timber-lined, in order to raise the water to boiling point and the mounds gradually built up from the fractured stones cleaned out from the trough after each use. Archaeological evidence indicates that this water-heating process may have originated in the Neolithic period but did not become widespread until the Bronze Age (Hawkes 2018). While many examples have been levelled by ploughing or land improvement works, in their undisturbed form they typically comprise horseshoe-shaped mounds built up around a central trough. The examples within the study area have been described as follows by the Archaeological Survey of Ireland:

*Fulacht fiadh WA014-030001-*

*Situated at the bottom of a gentle SW- and W-facing slope with the E-W Coumduane Stream c. 60m to the S. A U-shaped, heather-covered mound (dims. 13.5m NE-SW; 6m NW-SE; max. H 1m) is open to the SE and adjacent to a small pond or quarry. It is within a field system (WA014-003003-) and cairnfield (WA014-030002-).*

*Fulacht fia WA006-050----*

*Situated at the bottom of a SW-NE valley in a marshy area, close to the headwaters of a stream which is c. 20m to the NW. Kidney-shaped, grass-covered stony mound open to the NW (dims. 13m NE-SW; 7.2m NW-SE; H 0.6-0.9m). A fulacht fiadh (WA006-051----) is c. 70m to the NE, while ring-barrow (WA006-027----) is c. 200m to the ESE and enclosure (WA006-026----) is c. 145m to the SE.*

*Fulacht fia WA006-051----*

*Situated at the bottom of a SW-NE valley in a marshy area, close to the headwaters of a stream which is c. 45m to the NW. Horseshoe-shaped, grass-covered stony mound open to the W (dims. 16m E-W; 13.5m N-S; H 0.6-1.7m). A fulacht fiadh (WA006-050----) is c. 70m to the SW, while ring-barrow (WA006-027----) is c. 170m to the SE and enclosure (WA006-026----) is c. 150m to the S.*

*Fulacht fia WA006-056----*

*Description: Situated on a steep NW-facing slope. This is a kidney-shaped, grass-covered mound of broken and burnt stone (dims. 20m NW-SE; 16.7m NE-SW; H 0.7m (upslope) at SE to 2.4m at NW) open to the SW.*

*Burnt mound WA005-046----*

*Situated in pasture on a W-facing slope overlooking a S-N stream, which is c. 150m to the W. There is local information on a burnt mound. It is not visible at ground level in pasture.*



There are two small stone cairns and one cairn field located within the study area. These are a common feature in upland areas and some may have fulfilled various ritual functions, such as marking burial sites, territorial boundaries, memorial features and route markers. Some examples may also be associated with more recent functions such as modern upland shelters or features resulting from post-medieval or early modern land improvement works but it is not possible to ascertain this without archaeological excavation. The cairn field site within the study area also contains a field boundary recorded as an archaeological site and this may also date from any period from prehistory onward. The examples within the study area been described as follows by the Archaeological Survey of Ireland:

*Cairn (unclassified) WA014-055----*

*Situated on the N shoulder of Seefin Mountain. This is a circular heather-covered cairn (diam. 4.5m; H 0.4-0.7m).*

*Cairn - unclassified WA014-043----*

*Situated in a col between Milk Hill, c. 500m to the W, and Tooreenmountain, c. 300m to the SE. This is an oval grass-covered cairn (dims. 9.3m NE-SW; 4.7m NW-SE; H 0.8-1.4m).*

*Cairn field WA014-030002*

*Situated at the bottom of a gentle SW- and W-facing slope with the E-W Coumduane Stream to the S. The fulacht fia (WA014-030001-) and field boundaries (WA014-030003-) are associated with c. 40 cairns (diam. c. 5-6m; H 0.3-0.6m) placed 10-20m apart and covering an area of c. 1 ha.*

*Field boundary WA014-030003-*

*Situated at the bottom of a gentle SW- and W-facing slope with the E-W Coumduane Stream to the S. Fulacht fia (WA014-030001-) is within a field system comprising two stone walls (Wth c. 3m; L 60m and 50m respectively), which approach each other at right angles. The cairns of cairnfield (WA014-030002-) are also in the area.*



There are ten extant prehistoric archaeological monuments with potential visual alignments located in private lands within 10km of the Site and these comprise three standing stone pairs, seven stone rows and one unclassified megalithic tomb (Table 15.6 and Volume IV; Figure 15.2). These form part of a Bronze Age ritual tradition which entailed the construction of monuments with long axis attributes predominately aligned towards the southwest or west. These may in some cases have set alignments across the landscape directly solar events (e.g., solstices and equinoxes), and some may potentially be directly sighted on the locations of these events as the sun set on natural topographical features. A review of the locations and recorded orientations of the identified relevant monuments within 10km of the Site, as recorded by the Archaeological Survey of Ireland, is presented in Table 15.6. Two of the stone rows to the north of the Site (WA006-022002- and WA006-023001-) are located within a commercial forestry plantation which screens views from their locations while another example located to the west of the Site (WA013-007----) has been incorporated into a field boundary. Two other stone rows (WA006-054---- and WA006-055001-) are located on an open hillside located at distances of 3.9km and 4.7km to the northeast and both of these have recorded alignments towards the south that do not intersect with the Site. One of the stone rows (WA014-033002-) as well as a standing stone pair (WA014-031----) and an unclassified megalithic tomb (WA023-076----) are within a notable concentration of Bronze Age settlement and ritual sites, including huts, field boundaries, fulachta fia, cairns, barrows and standing stones, located in a valley on the western side of the Monavullagh Mountains which is located c.4km to the south of the Site (Volume IV; Figure 15.2) (Moore 1995). While this concentration of archaeological sites is not a designated National Monument in State Ownership or Guardianship, it has been assigned a Preservation Order (PO 4/1996). An inspection of the location of this valley was carried out as part of the assessment and this revealed that the monuments within the area are located within private lands that are not accessible to the public. The open side of the valley faces towards the west and ground surface views towards the Site from within the valley are obscured by the steep valley slope along its northern side. This topographical setting indicates that there was no intended sightline at ground level between the archaeological sites within the valley and any of the archaeological sites located within the Site or in lands extending for 1km from its boundary. In addition, it is noted that none of the archaeological sites located within the study area around the Site are set on prominences or have surface expressions that are likely visible from the wider landscape.

The majority of the reviewed monuments with visual alignment attributes within 10km of the Site have recorded orientations to the southwest or west quadrants and none directly align towards any of the proposed turbine locations within the Site.

**Table 15-6: Extant monuments with potential visual alignments within 10km of the Site**

Monument no.	Classification	Distance from nearest turbine	Alignment (ASI)	Direct Alignment towards turbines
WA023-076----	Megalithic tomb - unclassified	5km to south	NE-SW	No
TS091-004----	Standing stone - pair	6.8km to west	NE-SW	No
TS091-005----	Standing stone - pair	6.38km to west	NE-SW	No
WA014-031----	Standing stone - pair	3.5km to south	NNE-SSW	No
WA006-022002-	Stone row	1.3km to north	NE-SW	No
WA006-023001-	Stone row	1.5km to north	NE-SW	No
WA006-054----	Stone row	4.7km to northeast	N-S	No
WA006-055001-	Stone row	3.9km to northeast	N-S	No
WA013-007----	Stone row	1.1km to west	NE-SW	No



Monument no.	Classification	Distance from nearest turbine	Alignment (ASI)	Direct Alignment towards turbines
WA013-038002-	Stone row	4km to southwest	NE-SW	No
WA014-033002-	Stone row	3.34km to south	NW-SE	No

### Early Medieval Period

The early medieval period began with the introduction of Christianity to Ireland and continued until the arrival of the Anglo-Normans in the late 12<sup>th</sup> century (c. 400–1169 AD). While this period saw the emergence of the first phases of urbanisation around large monasteries and the Hiberno-Norse ports, the dominant settlement pattern continued to be rural-based and was centred on enclosed farmsteads known as ringforts. These are the most common early medieval sites within the Irish landscape and comprise circular enclosures delimited by earthen banks formed of material thrown up from a concentric external ditch. Archaeological excavations have demonstrated that the majority comprised enclosed farmsteads containing the foundations of domestic and agricultural buildings. There is one recorded ringfort located within the study area and this has been described as follows by the Archaeological Survey of Ireland:

#### *Ringfort WA006-021----*

*Marked as a circular embanked enclosure (ext. diam. c. 45m) on the 1840 ed. of the OS 6-inch map where it is encumbered by buildings at NW. Situated in pasture on a gentle NW-facing slope with buildings immediately to the N. It is not visible at ground level.*

The study area also contains two recorded enclosures, and this classification may often be applied to ringforts that retain no above ground remains that allow for a definitive conclusion in relation to their origin. The two enclosures within the study area are described by the Archaeological Survey of Ireland as follows:

#### *Enclosure WA005-028----*

*Marked as a circular embanked enclosure (ext. diam. c. 45m) on the 1840 ed. of the OS 6-inch map, and situated on a steep NE-facing slope. Subcircular grass-covered area (dims. 34m N-S; 32m E-W) defined by slight traces of a fosse (Wth 10m; D 0.2-0.4m) E-SE, a berm SE-W and a scarp (H c. 0.4m) elsewhere on the downslope side. It is bisected by an E-W field bank.*

#### *Enclosure WA006-026----*

*Situated on the N-facing slope of a SW-NE valley, with the headwaters of a stream c. 170m to the NW. Subcircular grass-covered area (int. dims. 41m E-W; 39m N-S) defined by a grass-covered stone spread (Wth 1.7m at E to 4m at N; int. H 0.3-0.4m generally to 0.7-0.9m E-S) with internal and external stone-facing (ext. H 0.1m at N (upslope) to 0.5-0.8m generally). There is no visible entrance. Ring-barrow (WA006-027----) is c. 60m to the NE and there are two fulachta fiadh (WA006-050----; WA006-051----) c. 145m to the NNW and N respectively.*



### *High and Late Medieval Periods*

The arrival of the Anglo-Normans in the late 12<sup>th</sup> century broadly marks the advent of the Irish high medieval period which continued to c.1400 and was followed by the late medieval period which extended to c.1550. These periods saw the continuing expansion of Irish urbanisation as many of the port cities developed into international trading centres and numerous villages and market towns began to develop throughout the country, often within the environs of Anglo-Norman manorial centres which were defended by masonry castles. By the 15<sup>th</sup> century the native Irish chieftains and lords began to construct tower-house castles within their own landholdings as centres of territorial control. There are no known archaeological sites dating to either period located within the study area and there is also little historical information on the settlement and land-use patterns within the wider area during these periods.

### *Post-Medieval and Early Modern Periods*

The centuries following 1550 AD comprise the post-medieval period which continued into the middle of the 19th century with the period thereafter often described as early modern. The following section provides a high-level overview of the period with references to associated archaeological sites within the wind farm site and further details on the layout of the area at that time are provided in the cartographic review presented below.

The early decades of the post-medieval period were a turbulent time in Ireland history and saw a long phase of warfare between the 1560s and 1603 with a further period of conflict during the mid-17<sup>th</sup> century Cromwellian Wars which resulted in extensive dispossession of forfeited Gaelic lands. As the post-medieval period progressed high and low status stone houses began to replace simpler cabins throughout the Irish countryside and many farmsteads at this time typically consisted of single-storey cottages with associated outbuildings while two-storey farmhouses became more common into the 19th century. An agricultural boom in the late 18th and early 19th centuries saw a rise in prices for both Irish tillage and dairy produce which resulted in landlords investing in extensive land improvement works within their holdings to increase productivity. This included widespread land drainage works, introduction of soil nutrients, grass planting and the enclosure of open lands into field systems that survive across the Irish landscape to the present-day. The cultivation of potatoes became widespread during this period and this high-yield crop, which required no processing, was particularly suited to small farm holdings within low-quality reclaimed lands with acidic soils. The popularity and success of this crop contributed to a population boom during the 18th and early 19th centuries and its failure in the middle of the latter century had devastating consequences. The settlement pattern throughout much of the rural landscape was greatly affected by the Famine period and its aftermath in the middle of the 19th century which saw the depopulation of many areas. The period after the Famine saw an increasing move away from small-scale subsistence farming towards more market-led pasture, assisted by the development of the Co-Op system, which also increased the extent of land reclamation of previously marginal lands.

The study area contains the recorded location of the basal remains of a small stone-built house of indeterminate date which is no longer extant and appears to have been removed during modern land reclamation works. The potential exists that this building dated to the post-medieval period, and it is described as follows by the Archaeological Survey of Ireland:

#### *House - indeterminate date WA014-053----*

*Situated in rough pasture on the E bank of the Colligan River in the upper valley. This is a two-room structure (ext. dims. 8m N-S; 2.4m E-W) defined by a stone wall-footing. There is no visible entrance. This area has been reclaimed since 1993 and it was not recognised in 2011.*



The study area also contains two upland huts listed as archaeological sites and these may be associated with post-medieval booley farming practices which entailed moving livestock into upland grazing grounds during summer months. The potential also exists that these hut sites may date to earlier periods, but this cannot be ascertained without recourse to archaeological excavation. The two examples within the study area are described as follows by the Archaeological Survey of Ireland:

*Hut site WA014-045----*

*Situated in pasture in the deep valley of the E-W Glenastuckaun stream, in a natural hollow on the N bank. A hut-site consisting of two conjoined circular chambers is defined by stone spreads (Wth 0.7-1m; H 0.2-0.5m). The NW chamber (int. dims. 3.7m NW-SE; 2.65m) is oval, and the SE chamber is circular (int. diam. 1.8-2.2m), but an entrance cannot be recognised.*

*Booley hut WA014-047----*

*Situated on the S summit of Bleantasour Mountain. This is an oval heather and grass-covered area (int. dims. 6.35m NW-SE; 3.7m NE-SW) defined by the remains of a stone wall-footing (Wth 0.5m). There is a gap (Wth 3.4m) on the NE side.*

The 17<sup>th</sup> century Down Survey records that the townlands within the Site formed part of the extensive possessions of Lord Deece in 1641 and 1670, although the Survey does not include records for Bleantasourmountain townland (**Table 15.7**).

**Table 15-7: Summary of Down Survey records for townlands within wind farm site**

Townland	17 <sup>th</sup> Century name	Owner 1641	Owner 1670
Kilkeanymountain	Unforfeited	Deece, Lord (Protestant)	Deece, Lord (Protestant)
Knockavanniamountain	Unforfeited	Deece, Lord (Protestant)	Deece, Lord (Protestant)
Coumragappul	Unforfeited	Deece, Lord (Protestant)	Deece, Lord (Protestant)
Glennaneane Mountain	Unforfeited	Deece, Lord (Protestant)	Deece, Lord (Protestant)
Carrigbrack	Unforfeited	Deece, Lord (Protestant)	Deece, Lord (Protestant)
Bleantasourmountain	No record	No record	No record

The *Topographical Dictionary of Ireland* (Lewis 1837) provides general descriptions of Irish parishes prior to the Famine period and often provides information on contemporary land use patterns, historical events and the archaeological sites and built structures of note, including schools, churches and country houses. The wind farm site is within the civil parish of Seskinan and Lewis’s description contains no references to any of the townlands within the wind farm site or the surrounding study area. The parish description is presented below and records that the majority of the area consisted of mountainous and boggy lands.

*SESKINAN, a parish, in the barony of DECIES-without-DRUM, county of WATERFORD, and province of MUNSTER, 5 ¾ miles (N.) from Dungarvan; containing 2732 inhabitants. It comprises 16,077 statute acres, of which the greater part consists of mountainous and boggy lands. At Ballynamult, on its western confines, is a small military barrack. The living is a rectory and vicarage, in the diocese of Lismore; the rectory forms the corps of the prebend of Seskinan in the cathedral of Lismore, with which the vicarage is held. The tithes amount to £335. 5. 2. The R. C. parish is co-extensive with that of the Established Church, and contains two chapels. About 340 children are educated in five private schools.*



### *Database of Irish Excavation Reports*

A review of this online database ([www.excavations.ie](http://www.excavations.ie)) in October 2023 revealed that it contains no entries for any licensed archaeological excavations within the Site or townlands in the surrounding study area.

### *National Museum of Ireland Topographical Files*

The topographical files held in the Museum premises in Dublin were inspected in order to ascertain if any archaeological artefacts have been discovered within the townlands that extend into the boundary of the Site. The inspection revealed that the files contain no entries for these townlands.

### *Cartographic Review*

The following section presents an overview of the general layout of the lands in which the Site is located as depicted on cartographic sources comprising the 1<sup>st</sup> edition 6-inch Ordnance Survey (OS) published in 1842 and the 2<sup>nd</sup> edition 6-inch OS map published in 1928. The majority of the Site is not within the coverage area of the 25-inch OS mapping (published 1906) although the coverage does include a section of the proposed site entrance road in the western area of the Site. The relevant extracts from the reviewed maps are presented in Volume IV (Figures 15.3 and 15.4) and further details on the historic OS map depictions of the areas within the footprint of development areas within the Site are presented in Section 15.3.4 (Table 15-10).

The detail on the first edition 6-inch OS map of 1842 shows the lands within the Site boundary as vacant heath with no farmyards, built structures or enclosed field systems depicted. The map does show enclosed fields within lower-lying lands outside the north and south ends of the Site, indicating the presence of farming settlements within more fertile lands within the wider environs of the Site during the early 19<sup>th</sup> century. While the majority of the Site is not within the coverage area of the 25-inch OS map of 1906, the location of the site access road from the west is depicted. This area, which was shown as open heath on the 1842 map, is now occupied by large, vacant fields indicating that the expansion of field systems through land reclamation works were carried out within the area during the second half of the 19<sup>th</sup> century. The route of the access road is shown extending through a number of vacant fields which are depicted as marginal lands, likely indicating that land reclamation works were still ongoing in the area at the start of the 20<sup>th</sup> century. The detail on the second edition OS map of 1928 shows the presence of a number of enclosed, rectangular fields, with two associated small farm buildings, within the central area of the Site which were likely created during the late 19<sup>th</sup> or early 20<sup>th</sup> centuries. These fields are within a low-lying area of Coumnagappul townland and were accessed by the existing farm road shown extending to the area from the south. The route of the site access road from the public road to the west continues to be shown as vacant, marginal fields and the remainder of the lands within the Site boundary are shown as vacant heath on the 1928 map. A number of townland boundaries are shown extending through the Site on the reviewed OS maps and any associated features such as banks or ditches that demark their extent are typically considered to be features of local cultural heritage interest. The maps indicate these boundaries as linear or curvilinear cartographic features extending through open heathlands and they do not appear to have been associated with constructed land division features such as field banks or ditches.

In conclusion, there were no potential unrecorded archaeological sites identified within the Site on any of the reviewed cartographic sources.



### *Aerial and Satellite imagery*

The detail on the consulted aerial and satellite images published since the 1990s (Ordnance Survey of Ireland, Google Earth and Bing) demonstrates that the majority of the lands within the Site remain as depicted on the second edition 6-inch OS map of 1928. The main change in land use comprises the presence of a large modern forestry plantation within the location of the site access road from the west and a smaller plantation within the fields depicted in Coumnagappul townland. A study by the Heritage Council of Ireland on the impacts of forestry plantations on archaeological sites, including their surface and buried elements, has noted that the initial planting process involves a number of ground disturbance activities, such as ploughing, drainage, access roads and planting, that has the potential to destroy or severely impact any sites within the plantation (Johnson 1998). Further impacts are also likely to occur during the operational phase of the plantation through continued disturbance by extensive root systems, which will entwine with any sub-surface archaeological deposits or features with little or no potential for removal without causing further destruction (*ibid.*).

One structure of cultural heritage interest was noted within the Site boundary during the review, and this comprises a small, rectangular, drystone structure with an associated rectangular field to the east which are located on an east-facing slope in Knocavanniamountain townland (Volume IV; Figure 15.1). This structure is located 10m outside the east side of an access road which extends to Turbine 4 to the south and this access road also avoids its associated field. The structure and its associated field are not depicted on any of the historic OS maps and the potential exists that they either post-date these maps or are earlier features which were not in use during the period between 1842 and 1928 when the OS maps were surveyed. The location was inspected during the field surveys carried out as part of this assessment and further details are presented in Section 15.3.4. No other previously unrecorded features of potential cultural heritage interest were noted within the Site during the review of aerial/satellite imagery.

### *Undesignated Cultural Heritage Assets*

While encompassing the protected archaeological and architectural heritage resources, cultural heritage also includes various undesignated assets such as historic settlements, demesne landscapes, vernacular structures, folklore, placenames, townland boundaries and historical events. There are no historic villages, demesne lands or associations with notable historical events located within, or in close proximity to, the wind farm site. A review of the National Folklore Collection UCD Digitization Project ([www.duchas.ie](http://www.duchas.ie)) revealed that this online database does not contain any records relating to folklore or traditions associated with any of the townlands that extend into the Site boundary. The Site extends into seven townlands (Table 15.8) and these comprise the smallest unit of land division in the Irish landscape, many of which may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The boundaries and nomenclature of the Irish townlands were recorded and standardised by the Ordnance Survey during the 19<sup>th</sup> century. The Irish origins of many townland names often refer to natural topographical features, but some name elements may also give an indication of the presence of past human activity within the townland, e.g., *lios* or *rath* indicate the presence of a ringfort while names containing elements such as *kill* or *temple* are often indicative of ecclesiastical activity. One of the townland names, Kilkeanymountain (Sliabh Chill Chiana - mountain of Chiana's church) is suggestive of an association with an ecclesiastical site which likely relates to the recorded site of a church in the north end of this townland which is located 2km outside the Site boundary. The townland name Reanadampaun Commons contains the Irish element, na dTiompán, which the Placenames Database of Ireland ([www.loganim.ie](http://www.loganim.ie)) translates as 'standing stones'. This likely refers to the recorded stone row (WA013-007----) in this townland which is now incorporated into a field boundary located 310m to the west of the Site entrance (Volume IV; Figure 15.1).





**Table 15-8: Translation of townland names within wind farm site**

Townland	Irish origin	Translation
Kilkeanymountain	Sliabh Chill Chiana	Mountain of Chiana’s Church
Knockavanniamountain	Sliabh Chnoc an Bhainne	Milk mountain
Coumnagappul	Com na gCapall	Hollow of the horse
Bleantasourmountain	Cnoc Bhléantas Odhar	Damp dark hill
Glennaneane Mountain	Cnoc Ghleann na nÉan	Bird valley hill
Carrigbrack	An Charraig Bhreac	Speckled rock
Cutteen North	An Coitín Thuaidh	North common
Reanadampaun Commons	Coimín Ré na dTiompán	The level ground of the standing stones

### 15.4.3.3 Grid Connection Route

The grid connection route extends southwards from the Site along public roads to the existing Dungarvan substation and it does not extend through any villages or towns. The following section presents an overview of the recorded cultural heritage constraints within the 100m study area centred on the route. The locations and inventory descriptions of these constraints are provided in Table 15.9 and a map of their locations is presented in Volume IV (Figure 15.5).

There are four recorded archaeological sites within the 100m wide corridor centered on the route and these are all located within private properties located adjacent to the public roads. As detailed in Table 15.9, these comprise two ringforts (WA022-009---- and WA022-010----), an enclosure (WA022-033----) and the recorded site of a children’s burial ground (WA022-056----).

There is one Protected Structure (PS WA750672) located within the 100m wide corridor centered on the route. This is a thatched cottage within a private property on the east side of the road in the townland of Ballymacmague South near the southern end of the route which is also listed in the NIAH (ref. 22903004). The area between this cottage and the roadway is occupied by a front garden bounded by a low roadside wall. The study area also contains a 19<sup>th</sup> century monumental feature known as the Master McGrath Monument which is listed in the NIAH (ref. 22903003). This feature was relocated to its current position in 1933 and is located within an area set back from the junction of two roads, at a distance of c.12m to the south of the grid connection route. The grid connection route does not extend through any Architectural Conservation Area (ACA) or any villages or towns and there are no designated bridges located within the roads forming the route.

The existing roads along the grid connection route are shown on the historic OS maps and their construction has likely resulted in the disturbance of the underlying ground surface within the footprint of the road take. The only section of road along the route which is not present on the first edition 6-inch OS map (1842) is within Reanadamaun Commons townland in the area to the west of the Site entrance. The existing section of road in this area is present on the 25-inch OS map (1906), indicating that it was constructed during the second half of the 19<sup>th</sup> century. The review of the historic OS maps revealed that they depict a dispersed settlement pattern along the roadsides with occasional unnamed small houses visible. As noted above, only one of these roadside houses is listed as a protected structure and this comprises a thatched cottage in Ballymacmague South townland (PS WA750672). In addition, the OS maps do not show any demesne lands within areas adjoining the roads, which are dominated by vacant agricultural fields, or include any annotations indicating the presence of named road bridges along the route,





**Table 15-9: Designated cultural heritage sites within grid connection study area**

Designation	Class	Townland	ITM	Approx. distance from route	Inventory Description
NIAH 22903003	Master McGrath Monument	BALLYMACMAGUE SOUTH	622387, 595332	12m to south	Freestanding drag edged cut-limestone monument, erected 1873, on a square plan on limestone-covered plinth. Repositioned, 1933. Road fronted on a wedge-shaped site. (Source: NIAH)
NIAH 22903004 RPS WA750672	Thatched Cottage	BALLYMACMAGUE SOUTH	622066, 595509	Within adjacent roadside property	Detached five-bay single-storey thatched cottage, c.1840. Extensively renovated and extended, c.1990, comprising two-bay single-storey return to north with single-bay single-storey projecting porch added to centre, and window openings remodelled... Set back from line of road with gravel grounds to site. (Source: NIAH)
WA022-009-- --	Ringfort	TINALIRA	620259, 603172	15m to northwest	Marked faintly as an oval enclosure (dims. c. 40m NE-SW; c 30m NW-SE) incorporating a field bank WSW-N on the 1840 ed. of the OS 6-inch map. Situated in pasture on a NE-facing slope, it is not visible at ground level. (Source: NMS Historic Environment Viewer)
WA022-010-- --	Ringfort	TINALIRA	620158, 602975	28m to southeast	Marked as a circular embanked enclosure (ext. diam. c. 30-35m) called 'Lisnaconduff' on the 1840 ed. of the OS 6-inch map. Situated in pasture on a NE-facing slope, it is not visible at ground level. (Source: NMS Historic Environment Viewer)
WA022-033-- --	Enclosure	GARRYDUFF	620457, 601049	5m to west	Marked as a rectangular embanked enclosure (ext. dims. c. 30m N-S; c. 30m E-W) on the 1840 ed. of the OS 6-inch map and as an oval embanked enclosure (ext. dims. c. 50m E-W; c. 40m N-S) on the 1927 ed. Situated at the crest of the E-facing slope of a hill. Subrectangular grass-covered area (dims. c. 24m N-S; c. 24m E-W) defined by the remains of a broadly spread bank (Wth 4m; H 0.2m) at N and S. There is no visible fosse or entrance. Archaeological testing (08E0221) by Agnieszka Pieczarka on a site immediately to the E on the other side of the road produced no related material (Tierney 2011). (Source: NMS Historic Environment Viewer)



Designation	Class	Townland	ITM	Approx. distance from route	Inventory Description
WA022-056-- --	Children's burial ground	COLLIGAN MORE	620702, 601049	12m to west	<p>Marked as a small oval enclosure (dims. c. 30m E-W; c. 15m N-S) and denoted 'Faheen' on the 1st ed. of the OS 6-inch map, it is reputedly the site of a children's burial ground (Power 1952, 121). Situated in pasture on an E-facing slope, it is not visible at ground level.</p> <p>(Source: NMS Historic Environment Viewer)</p>



#### 15.4.3.4 Turbine Delivery Route

A review of the TDR from Waterford city to the Site was carried out. While there are a range of recorded cultural heritage constraints located within private lands close to the public roadways forming the delivery route, the use of these public roads as driving routes will have no predicted potential to impact on these constraints or their associated properties. The assessment focused on the locations of Points of Interest (POI) along the route which require works to facilitate the delivery of turbines to the Site, as identified in a report prepared for the transport of turbines as part of the Development (Pell Frischmann 2023). A review of historic OS mapping revealed that, other than modern sections of the N25 road, the local roads the route follows were present during the 19th century and no potential extant unrecorded features of cultural heritage interest were noted within any of the POI locations. In addition, there are no bridges along the route designated as Protected Structures or included in the National Inventory of Architectural Heritage and no interventions to other undesignated masonry bridges are proposed.

The review revealed that three of the POI locations are within the environs of recorded cultural heritage constraints (Volume IV; Figures 15.6 to 15.8) and these are detailed below.

POI No. 8 is located on the opposite side of the roadway from the Master McGrath monument which is a 19<sup>th</sup> century feature listed in the NIAH (ref. 22903003) (see Table 15.9 for inventory description). The works in this area will entail the laying of a loadbearing surface on the north eastern verge on the inside of the right turn and the removal of three road signs and two bollards. The location of these works is at a distance of c.50m to the east of the Master McGrath monument and no interventions to the monument or the area of the Y-junction where it is located are proposed.

POI No. 9 is located within a section of the roadway adjacent to a thatched cottage listed as a Protected Structure (RPS WA750672) (see Table 15.9 for NIAH inventory description). The works in this area will be limited to trimming of roadside vegetation within the environs of the property and no interventions to the cottage or its roadside boundary wall are proposed.

POI 12 is located within a section of road located c.25m to the east of the recorded location of a children's burial ground which is listed as an archaeological site (RMP WA022-056----) (see Table 15.8 for inventory description). The location of this site is with private third-party lands to the west of the road and the Archaeological Survey of Ireland record that no surface traces survive at this location. The works in this area will entail laying a loadbearing surface on the grass verge on the west side of the existing road carriageway in an area located c.25m from the recorded location of the archaeological site and no interventions to its recorded location are proposed.



#### 15.4.4 Field Survey

##### 15.4.4.1 *Wind Farm Site*

The field inspections of the Site were carried out by the authors during clear weather conditions that afforded good landscape visibility. The following section commences with a general overview of the Site, and this is followed by tables which provide descriptions of the locations of development locations within the Site (Table 15.10) and descriptions of the existing condition of accessible recorded archaeological sites within the Site boundary as well examples within its close environs (Table 15.11) and descriptions of a number of features of potential cultural heritage noted during the field survey (Table 15.12). Three previously unrecorded features of potential cultural heritage interest were noted within the Site during the field surveys, which comprise a drystone animal pen with an associated field, a small area of clearance cairns within a field reclaimed in the 20<sup>th</sup> century, and an upright stone which may be of archaeological potential. There are no development works proposed at the locations of any of these features which are described in Table 15.12 and are mapped in Volume IV; Figure 15.1.

In general, the existing overall layout of the lands within the Site is similar to that shown on the second edition 6-inch OS map of 1928 other than the presence of the large forestry plantation in the western area and a smaller plantation in the central area of the Site within Coumna­gappul townland. The Site is centred on a north-south orientated valley with moderate slopes on the west, north and east sides. The open upland lands on the valley slopes and ridge comprise areas of rocky heath with no evidence of extensive modern interventions other than occasional land drains. The area of reclaimed fields shown on the 1928 OS map in the low-lying central area in Coumna­gappul townland were in use as sheep grazing lands at the time of the survey. The small farm buildings shown in this area on the 1928 OS map survive as unroofed features which are in use as animal pens and are of no cultural heritage interest. This area of enclosed fields is accessed from the south along the farm road shown on the 1928 OS map and this comprises a stone surfaced road in good repair that appears to have been resurfaced in recent years. The creation of the extensive forestry plantations within the western end of the Site, which contains the proposed site access road from the public road to the west, have resulted in widespread disturbance of the underlying ground surface in this area.

The majority of the proposed development areas within the Site are within open upland heathlands on the valley slopes and this includes all of the turbines apart from the proposed location of Turbine 5, as well as the onsite substation and a temporary compound, which are located in an area of reclaimed fields in Coumna­gappul townland (Volume IV; Figure 15.1). All of the development areas located within the upland heath were accessible and comprise unenclosed areas with rocky, uneven ground surfaces that are also shown as vacant land on the historic OS maps, which depict no settlement or agricultural activity within these upland areas. The gorse and rough grass growth within the areas of upland heath were low at the times of inspection and included areas that had been subject to gorse burning, which afforded good visibility of the ground surface within the development areas. The low-lying reclaimed pasture fields within Coumna­gappul townland were under low grass growth at the time of survey and comprise rectangular plots within an area of terrain that gradually slopes down towards the east.

A narrow stream which forms a tributary of the Colligan river extends southwards through a low-lying area of the Site and the location of a proposed access road that will cross this watercourse was also inspected from the adjacent bank. The stream at this location flows along the base of a steep-sided gully and it comprises a narrow, fast-flowing channel that measures 0.8m-1.5m wide. The water level within the channel during the inspection carried out in April 2023 was shallow (c.0.4m deep) and the stream bed is rocky with little evidence for sediment accumulation. There were no features of potential underwater archaeological significance, such as a weir or stepping stones, noted at the location during the site inspection, or during a review of historic OS maps, and the proposed crossing methodology over the stream will entail a single span bridge.



**Table 15-10: Description of wind farm development locations**

Project Element	Description	Distance to nearest archaeological site	Historic OS map detail	Aerial and Satellite images (OSI, Google Earth & Bing)
Turbine 1	Located within a generally level ridgeline area under low gorse growth on west side of valley. The area is within open land with no field enclosures and no surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location.	Cairn WA014-043--- located 895m to east	Shown as vacant upland area on all editions	Shown as vacant upland heath on all images and no potential unrecorded cultural heritage constraints are visible
Turbine 2	Located within slightly sloping area under low gorse growth on north side of valley. The area is within open land with no field enclosures and no surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location.	Cairn WA014-043--- located 310m to east	Shown as vacant upland area on all editions	Shown as vacant upland heath on all images and no potential unrecorded cultural heritage constraints are visible
Turbine 5	Located within area of reclaimed fields in lower land in the north end of the valley. The hardstand extends into two fields with the east field under low grass and the western more marginal field under rough grass. No surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location	Cairn WA014-043--- located 690m to northeast	Shown as vacant, unenclosed area on 1842 OS map. The 1928 OS map shows the existing enclosed fields indicating the area was reclaimed in early modern times	Shown as enclosed fields on all images and no potential unrecorded cultural heritage constraints are visible
Turbine 6	Located within area of rocky heath on eastern slope of valley. The area is within open land with no field enclosures and no surface traces of any potential unrecorded archaeological sites were noted at the hardstand. A drystone	Cairn WA014-043--- located 610m to north	Shown as vacant upland area on all editions	Shown as vacant upland heath on all images and no potential unrecorded cultural heritage constraints are visible



Project Element	Description	Distance to nearest archaeological site	Historic OS map detail	Aerial and Satellite images (OSI, Google Earth & Bing)
	structure with an associated rectangular field were noted during field-walking of the access road to this turbine from the north and these are described in Table 15.12. The access road was redesigned to avoid their locations and they will be retained <i>in situ</i> .			
Turbine 7	Located within area of rocky heath on eastern slope of valley. The area is within open land with no field enclosures and no surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location.	Standing Stone WA014-046---- located 680m to west	Shown as vacant upland area on all editions	Shown as vacant upland heath on all images and no potential unrecorded cultural heritage constraints are visible
Turbine 8	Located within lower slopes of east side of valley in an area of rocky heath with modern reclaimed fields to the west and south. The location is within open land and no surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location.	Standing Stone WA014-046---- located 680m to west	Shown as vacant upland area on all editions	Shown as vacant heath on all images and no potential unrecorded cultural heritage constraints are visible
Turbine 10	Located in gently sloping area at base of eastern slope of valley in an area of rocky heath with modern reclaimed fields to the west and south, The location is within open land and no surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location.	Field Boundary WA014-030003- located 350m to south	Shown as vacant area on all editions	Shown as vacant heath on all images and no potential unrecorded cultural heritage constraints are visible





Project Element	Description	Distance to nearest archaeological site	Historic OS map detail	Aerial and Satellite images (OSI, Google Earth & Bing)
Turbine 11	Located in level area at base of eastern slope of valley in an area of rocky heath with modern reclaimed fields to the west and south, The location is within open land and no surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location.	Cairn field WA014-030001- located 250m to west	Shown as vacant area on all editions	Shown as vacant heath on all images and no potential unrecorded cultural heritage constraints are visible
Turbine 12	Located within level, upland boggy area on west side of the valley. The location is within open land and no surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the hardstand and access roads to the location.	Booley hut WA014-047---- located 345m to west	Shown as vacant upland area on all editions	Shown as vacant upland heath on all images and no potential unrecorded cultural heritage constraints are visible
Substation	Located within area of reclaimed fields in lower lands in the north end of the valley. The location is within a level pasture field on the south side of a modern forestry plantation. No surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the location	Standing Stone WA014-046---- located 250m to south	Shown as vacant, unenclosed area on 1842 OS map. The 1928 OS map shows the existing enclosed fields indicating the area was reclaimed in early modern times	Shown as enclosed field on all images no potential unrecorded cultural heritage constraints are visible
Construction Compound (west)	Located within a reclaimed, level field to the north of the site entrance and to west of public road. No surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the location	Stone row WA013-007---- located 400m to west	Shown as vacant, unenclosed area on 1842 OS map. The 1928 OS map shows the existing enclosed field indicating the area was reclaimed in early modern times	Shown as enclosed field on all images no potential unrecorded cultural heritage constraints are visible



Project Element	Description	Distance to nearest archaeological site	Historic OS map detail	Aerial and Satellite images (OSI, Google Earth & Bing)
Construction Compound (east)	Located within area of reclaimed fields in lower lands in the north end of the valley. The location is within a level pasture field on the south side of a modern forestry plantation. No surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted at the location	Standing Stone WA014-046---- located 250m to south	Shown as vacant, unenclosed area on 1842 OS map. The 1906 OS map shows the enclosed fields indicating the area was reclaimed in the late 19 <sup>th</sup> century	Shown as enclosed field on all images no potential unrecorded cultural heritage constraints are visible
Site Entrance and Access Road	The west end of the access road extends along an existing forestry track which includes a concrete surfaced feature extending across the base of a stream that runs across this trackway, The access route then turns to the northeast through the forestry plantation and continues up the side of the hillside on the west side of the valley. No surface traces of any potential unrecorded archaeological sites or other features of cultural heritage interest were noted along this route.	Stone row WA013-007---- located 310m to west of entrance	The location of the forestry plantation is shown as a vacant, unenclosed area on 1842 OS map. The 1906 OS map shows enclosed fields in this area indicating it was reclaimed in the late 19 <sup>th</sup> century. The upland heath lands above the forestry are shown as a vacant, unenclosed area on all editions.	The extent of the forestry plantation is shown gradually expanding in area from the 1990s onwards. The upland area is shown as open heath on all images no potential unrecorded cultural heritage constraints are visible



**Table 15-11: Descriptions of existing condition of recorded archaeological sites within environs of Site**

Monument No.	ITM	ASI Inventory Description	Field Notes
WA014-030001- Fulacht fia	634777, 607589	Situated at the bottom of a gentle SW- and W-facing slope with the E-W Coumduane Stream c. 60m to the S. A U-shaped, heather-covered mound (dims. 13.5m NE-SW; 6m NW-SE; max. H 1m) is open to the SE and adjacent to a small pond or quarry. It is within a field system (WA014-003003-) and cairnfield (WA014-030002-).	The mound remains extant and as described by ASI but is largely obscured by vegetation overgrowth.
WA014-030002- Cairnfield	624810, 607702	Situated at the bottom of a gentle SW- and W-facing slope with the E-W Coumduane Stream to the S. The fulacht fia (WA014-030001-) and field boundaries (WA014-030003-) are associated with c. 40 cairns (diam. c. 5-6m; H 0.3-0.6m) placed 10-20m apart and covering an area of c. 1 ha.	Numerous small cairns remain extant and as described by ASI and are obscured by vegetation growth.
WA014-030003- Field boundary	624790, 607662	Situated at the bottom of a gentle SW- and W-facing slope with the E-W Coumduane Stream to the S. Fulacht fia (WA014-030001-) is within a field system comprising two stone walls (Wth c. 3m; L 60m and 50m respectively), which approach each other at right angles. The cairns of cairnfield (WA014-030002-) are also in the area.	Largely obscured by sod and vegetation overgrowth within area of unreclaimed heathland. Visible sections comprise both substantial orthostats (sample measurement: 0.7m (L) by 0.3m (W) by 0.7m (H)) and smaller loose stones.
WA014-042---- Redundant record	624607, 610150	Situated at the head of the N-S Colligan river valley. Listed in the RMP (1995) as a fulacht fia. On inspection in 2009 this was found to be a natural mound and not an archaeological monument.	No traces of any potential archaeological features were identified during the field-walking survey of this location.
WA014-043---- Cairn - unclassified	624745, 610180	Situated in a col between Milk Hill, c. 500m to the W, and Tooreenmountain, c. 300m to the SE. This is an oval grass-covered cairn (dims. 9.3m NE-SW; 4.7m NW-SE; H 0.8-1.4m).	The cairn is extant and remains as described by ASI although its location is largely obscured by reed growth.
WA014-044---- Redundant record		Situated on a W-facing slope in the valley of the upper Colligan River, with an E-W stream c. 120m to the N. Listed in the RMP (1995) as a possible hut-site. On inspection in 2011 no evidence of a hut site was found at this location.	No traces of a potential hut site were identified during the field-walking survey of this location.



Monument No.	ITM	ASI Inventory Description	Field Notes
WA014-046---- Standing stone	624155, 608797	Situated in the N-S valley of the headwaters of the Colligan river, with the N-S river c. 70m to the E. This is a conglomerate stone with a triangular cross-section (dims. 1.2m N-S; 0.5m E-W; H 1.2m).	An inspection of the location of this monument revealed that no surface traces are now evident and that a modern deposit of rubble and soil (up to 2m high) now occupies its recorded location. The potential exists that it survives <i>in-situ</i> beneath this deposit.
WA014-053---- House - indeterminate date	624295, 607915	Situated in rough pasture on the E bank of the Colligan River in the upper valley. This is a two-room structure (ext. dims. 8m N-S; 2.4m E-W) defined by a stone wall-footing. There is no visible entrance. This area has been reclaimed since 1993 and it was not recognised in 2011.	A visual appraisal of the recorded location of this site confirmed that no extant above surface remains are evident.

**Table 15-12: Descriptions of potential cultural heritage features within the Site**

Feature Type	ITM	Description
Drystone Structure with associated field	624163, 609720	The surface remains of a rectangular drystone structure with an associated rectangular field were noted during a review of aerial/satellite images of the Site within the environs of the access road between T1 and T4 and an inspection of their location revealed that they remain in situ. The structure comprises a main space on the north side enclosed with drystone walling (average 1m high by 0.6m thick) which encloses an internal area measuring 7.9m E-W by 4.7m N-S. A potential entrance was indicated by a narrow gap in the east end of the north wall. There are no surface traces of any internal features and the walls do not contain any bonding material, storage niches or window opes. The footing of a drystone, rectangular annex structure abuts the outer face of the south wall and this measures 6.7m N-S by 9.6m E-W and is defined by low traces of a wall footing averaging 0,3m in height. There was no gap in the dividing wall between these two spaces which formed a doorway. The aerial/satellite images also show the outline of an associated adjacent field (110m NW-SE x 86m NE-SW) and the drystone structure is located in its northwest corner. The field extent is regular in shape and is delimited on all sides with linear boundaries. An inspection of its extent on the ground revealed it to be delimited by shallow drains with no obvious surface traces of extant drystone walling or earthen banks.



Feature Type	ITM	Description
		<p>The drystone structure and associated field are not depicted on any of the OS maps and the potential exists that they were not recorded by the OS surveyors or alternatively that they pre-date or post-date the compilation of the OS map editions. It is noted that they are located on a hillslope above an area of fields reclaimed in the late 19<sup>th</sup> century and may be associated with the expansion of enclosed farm plots into the general area during that time. The drystone structure does not appear to represent the remains of a habitation structure, such as a house or booley hut, and appears to comprise the remains of a small animal pen attached to a single field.</p> <p>The access road between T1 and T4 was redesigned to avoid the location of the drystone structure and its associated field and extends at a distance of 10m to the west of their location which will result in their preservation in situ.</p>
Upright Stone	624905, 607995	<p>An upright stone was noted within an area of heath located 40m to the north of the access road between T10 and T11. It is a conglomerate stone with a triangular cross-section (long axis north-south) and measures 90cm high by 25cm E-W and 70cm N-S. While the potential exists for this to be a prehistoric standing stone, it is noted that its alignment does not correspond to the northeast to southwest alignment typical of the majority of such monuments. Given its presence within an area of rocky heath containing frequent natural surface stones and boulders, the potential that it is natural in origin is not discounted. Nonetheless, it is located outside the footprint of the turbines and access roads and will be retained in situ within lands identified for habitat enhancement which will involve a grazing regime.</p>
Field Clearance Cairns	624813. 607822	<p>Four low, grass-covered cairns were noted within an improved pasture field situated to the immediate north of the area of heath containing cairn field WA014-030002-. The cairns are located in close proximity to one another in the southeast corner of the field and the largest example measures c.4.3m (E-W) by 2.4m (N-S) and c.0.6m high. The field containing these cairns was reclaimed following the publication of the 1928 OS map and these features may be associated with modern land clearance works. There are no proposed development works, such as turbines or access roads, in this area and will be retained in situ within lands identified for habitat enhancement which will involve developing agricultural lands into heath habitat. .</p>





#### 15.4.4.2 Grid Connection Route

The grid connection will extend along the public road network between the existing Dungarvan substation and the wind farm site which extends through an undulating landscape dominated by pasture farmland. The modern tarmac surfaces within the road carriageways are generally level with the ground surfaces in adjacent fields indicating that their construction involved ground excavation works rather than the introduction of embankment fills on existing ground surfaces. The majority of the road margins are delimited by overgrown field banks with localised narrow grass verges and the dispersed roadside housing stock along the route is dominated by detached residences and farmyards. No unrecorded features of potential archaeological, architectural or vernacular heritage interest, such as masonry stone bridges, were noted within the road corridors. The locations of extant recorded heritage constraints within the 100m study area were inspected from the roadsides and all remain as described in the inventory entries presented in Table 15.9.

The GCR extends off road through one green field area and this comprises a section in Reanadampaun Commons townland where the route extends for an approximate distance of c.300m through vacant pasture fields in order to facilitate a horizontal direction drill crossing under a narrow stream that extends through this area. The desktop study revealed no cultural heritage constraints in this area. An inspection of this location revealed that a stone-built feature (Appendix 15.1; Plate 16), which comprises a large capstone resting on two side stones, is located c.15m to the west of the grid route (at ITM 621316, 608383). While this feature broadly resembles a megalithic structure, its morphology does not correlate with any category of this monument type and an inspection of the capstone revealed that it contains two differential sections of weathering, as well as recent fracture marks, which indicate that it was a partially buried field boulder that was moved to its current position in recent years, likely by a mechanical excavator. In addition, the ground surface immediately around the feature contains no sod layer and appears to have been recently disturbed by ground works. A review of a 2011 Google Street View image of the location revealed that the stone feature was not present at that time, and it also does not appear to be evident on Google Earth satellite images dating up to 2022. The feature is visible on a recent Bing Map satellite image that appears to post-date the Google imagery and also indicates that the field has been subject to recent improvement works which includes a large machine excavated ditch extending alongside the northern field boundary located c.10m to the north of the stone feature. Given these factors, the stone feature is interpreted as being non-archaeological in origin. While it is likely modern in date, perhaps created with field boulders sourced from the recent excavation of the adjacent boundary ditch, it is nonetheless located c.15m from the grid route and no interventions to the feature will occur.



#### 15.4.4.3 Turbine Delivery Route

The turbine delivery route will entail the use of the existing road network between Waterford port and the Site. A windshield survey of the route was carried out which included inspections of work areas that are located within the environs of the cultural heritage sites detailed in Section 15.4.3.4. The proposed works along the route will not require the construction of any sections of new roads and the interventions within the existing road carriageways will entail vegetation trimming, the removal of a number of modern bollards and signs, the laying of load-bearing surfaces along road margins at a number of bends and localised areas of road widening along narrow sections of local roads. The inspection of these areas revealed no potential unrecorded archaeological or other cultural heritage features, including undesignated vernacular features such as historic buildings, street furniture, boundary walls or masonry bridges. As noted in Section 15.4.3.4, there are three recorded cultural heritage constraints located within 100m TDR work areas and these comprise the 19<sup>th</sup> century Master McGrath monument (NIAH 22903003), a thatched cottage (Protected Structure WA750672) and the recorded site of a levelled burial ground (RMP WA022-056----). The McGrath monument and thatched cottage are visible from the roadways and remain as described by the NIAH (see Table 15.9). The recorded location of the burial ground (RMP WA022-056----) is located within private third-party lands at a distance of c.25m to the west of the public road and is not visible from the roadside. The inspection of the locations of minor, roadside load bearing works within the environs of these constraints revealed that no associated features, or any other features of vernacular interest, exist within the footprint of the TDR works (see Volume IV; Figures 15.6, 15.7 and 15.8).

### 15.5 Potential Effects

#### 15.5.1 Introduction

The following sections present assessments of potential effects on identified cultural heritage assets within the environs of the various elements of the Project and these are then collated in table format (Table 15.13). The majority of the recorded assets located within lands surrounding the Site are within inaccessible private properties and have been assigned a range of potential values where certainty cannot be assessed in the absence of site inspections. These values have been assigned based on the criteria outlined in Table 15-2 in combination with available contextual information sourced during the desktop study including details on their settings and current state of preservation based on published archaeological inventory descriptions, details on historic mapping and reviews of modern aerial/satellite images of their locations. It should also be noted that all archaeological sites, including levelled examples, have the potential to possess sub-surface features, artefacts, human burials or other archaeological remains, which may be of High value, but this cannot be discerned without recourse to archaeological excavation and are attributes unlikely to be affected in the absence of direct effects.

#### 15.5.2 Do Nothing Scenario

A 'Do Nothing Scenario' will see to the continued preservation of recorded and potential cultural heritage features within the study area.





### 15.5.3 Construction Phase

#### *Wind Farm Construction Phase Direct Effects*

The inspection of the locations of two ‘redundant records’ within the Site confirmed the Archaeological Survey of Ireland conclusion that no archaeological sites exist at their locations. While the recorded locations of these redundant records have been avoided as a precautionary measure, they have been scoped out of the following assessments due to the absence of any evidence of the presence of archaeological sites at their locations. There are no other recorded archaeological sites located within the Site and the construction phase will, therefore, not result in any predicted direct effects on the known archaeological resource.

The potential exists for the presence of unrecorded, sub-surface archaeological remains within the Site boundary. While the existence as well as location, extent and nature of such potential unrecorded, sub-surface archaeological remains are indeterminable the potential exists for direct, negative effects on any examples that may exist within development areas and this will require mitigation (see Section 15.6). There are no proposed works that will result in direct effects on watercourses that may contain unrecorded underwater archaeological features or artefacts.

There are no designated architectural heritage structures located within the Site or within the surrounding 1km study area and the construction phase will, therefore, not result in any direct effects on this element of the cultural heritage resource.

There were three previously unrecorded features of cultural heritage potential identified within the Site during the compilation of the assessment. These comprise a drystone structure (with an associated field) which is of vernacular heritage interest, an upright stone of archaeological potential and a cluster of four small field clearance cairns which may be of recent origin (see Table 15.12 and Volume IV; Figure 15.1). There are no proposed development areas at any of their locations and the mitigation strategies presented in Section 15.6 include measures to ensure that they will be adequately protected within appropriate buffer zones as defined by the Archaeologist appointed to monitor the construction phase. No direct construction phase effects on any of these undesignated constraints are, therefore, predicted.

#### *Wind Farm Construction Phase Indirect Effects*

There are no recorded archaeological sites located within 100m of development areas within the Site and, therefore no indirect effects on the immediate setting of the known archaeological resource are predicted during the construction phase. There are no known architectural heritage structures within the environs of the wind farm site and, therefore, no indirect effects on this element of the cultural heritage resource are predicted during the construction phase. There are no development areas located within 10m of the three previously unrecorded cultural heritage constraints noted within the Site during the assessment (Table 15.12). As detailed in Section 15.6, these will be contained within cordoned off buffer zones extending for a minimum of 10m from their outer edges for the duration of the construction phase and, therefore, no indirect effects on these constraints are predicted during this phase.

#### *Grid Connection Construction Phase Direct Effects*

There are no recorded archaeological sites or designated architectural heritage structures located on the direct footprint of the grid connection and it does not extend into any historic villages or towns. The cultural heritage constraints identified within a 100m corridor centred on the grid connection route are located within private properties where no works are proposed, and none contain any recorded elements that may extend under the existing roadways. The desktop study and site inspections carried out as part of this assessment did not identify any unrecorded vernacular features within the road carriageways and the one localised green field area that the grid connection route extends through. The construction phase of the grid connection route will, therefore, result in no predicted direct effects on any known cultural heritage constraints.



#### *Grid Connection Construction Phase Indirect Effects*

The excavation and subsequent backfilling of the cable trench will result in no likely indirect effects on the known cultural heritage resource as there are no recorded cultural heritage constraints within the footprint of the trench within the public roads and the existing road surfaces will be reinstated following the installation of the cable.

#### *Turbine Delivery Route Construction Phase Direct Effects*

There are no recorded cultural heritage constraints, including undesignated vernacular features, located within the footprint of proposed construction phase works areas required to facilitate the delivery of turbines to the Site and these works will, therefore, result in no predicted direct impacts on the cultural heritage resource.

#### *Turbine Delivery Route Construction Phase Indirect Effects*

The use of public roads to transport the turbines will not result in any predicted indirect effects on the cultural heritage resource as no interventions to the settings of known cultural heritage assets will arise from the temporary nature of the transportation of turbines and localised works.

### 15.5.4 Operational Effects

#### *Wind Farm Operational Phase Direct Effects*

The operational phase of the Proposed Development will result in no predicted direct effects on the known archaeological, architectural and cultural heritage resources as no constraints have been identified within the footprint of any elements of the development. In addition, the successful implementation of the construction phase mitigation measures outlined in Section 15.6 will result in the preservation in situ (by avoidance) or the preservation in record (by archaeological excavation) of any unrecorded, sub-surface archaeological sites or features that may exist within proposed construction areas. There will, therefore, be no predicted direct effects on any such potential unrecorded archaeological sites during the operational phase.

#### *Wind Farm Operational Phase Indirect Effects*

There are two recorded archaeological sites within the Site and both of these have been classified as 'redundant records' by the Archaeological Survey of Ireland as there is no evidence for the presence of any archaeological sites at their locations. There are 28 archaeological sites, including two classified as 'redundant records' by the Archaeological Survey of Ireland, located within private lands within an area extending for 1km in all directions from the Site boundary (Table 15.5 and Volume IV, Figure 15.1). Three of these external archaeological sites contain potential ritual alignment attributes that create visual sensitivity extending beyond their immediate setting and these comprise three stone rows (WA006-022002-, WA006-023001- and WA013-007----). As detailed in Table 15.6, none of these sites are directly aligned towards proposed turbine locations and two are located within a modern forestry plantation which likely screens any views from their locations (WA006-022002- and WA006-023001-) while the other example is now incorporated into a field boundary wall (WA013-007----).

As detailed in Table 15.13, the operational phase will likely result in a range of indirect, negative effects of a visual nature on the wider settings of extant archaeological sites within the environs of the Site which will range from not significant to slight in significance.



The recorded archaeological resource within an area extending for 10km from the Site was also assessed to determine the presence of other monuments within the wider landscape that may have potential visual sensitivities beyond their close settings, i.e., monuments with ritual alignments across the landscape. This revealed that all are located within private lands not accessible to the public and none have alignments set directly towards proposed turbine locations (Table 15.6). Given the distances of these monuments from the Site in combination with the absence of recorded direct visual alignments towards its location, no predicted moderate or significant, indirect negative effects on their alignments are predicted and any potential slight indirect effects on their wider settings will be reversed following the decommissioning phase.

A desktop review of the landscape extending for 10km from the Site also revealed that there are no National Monuments in State Care or World Heritage sites (including tentative list site) located within this area. The operational phase will therefore not result in any predicted indirect effects on archaeological sites assigned these designations.

There are no designated architectural heritage structures located within the Site or within 1km of its boundary and no likely significant indirect effects on this element of the cultural heritage resource are predicted.

Three previously unrecorded features of cultural heritage potential were noted within the Site during the compilation of this assessment. The remains of a drystone agricultural structure with an associated field, which are of potential post-medieval or early modern date, are located 10m to the east of an access road extending between T1 and T4 (Table 15.12 and Volume IV; Figure 15.1). An upright stone feature (tentatively interpreted as being of archaeological origin) and four field clearance cairns (of potential modern date) were identified at respective distances of 40m and 135m from the access road between T10 and T11. The operational phase will result in negative, slight, long-term, indirect effects on the setting of these cultural heritage constraints.

As detailed in Table 15.13, the operational phase will likely result in a range of indirect, negative effects of a visual nature on the wider settings of extant archaeological sites within the reviewed 1km study area around the Site which will range from imperceptible to slight in significance. While the turbines will be visible from various other cultural heritage assets within the surrounding landscape, no likely significant, indirect effects on examples with notable visual or amenity sensitivities are predicted during the operational phase.





**Table 15-13: Summary of operation phase effects on cultural heritage sites within wind farm study area**

Monument No.	Class	Value of Asset	Distance from nearest turbine	Type of effect	Quality of effect	Magnitude of effect	Duration	Significance of effect
WA014-047----	Booley hut (extant)	Medium to High	345m west of T12	Indirect	Negative	Low	Long term	Slight
WA005-046----	Burnt mound (levelled)	Medium	1.390m northwest of T1	Indirect	Negative	Negligible	Long term	Imperceptible
WA014-055----	Cairn - unclassified	Medium to High	1,720m southeast of T11	Indirect	Negative	Negligible	Long term	Imperceptible
WA014-043----	Cairn – unclassified (extant)	Medium to High	310m east of T2	Indirect	Negative	Low	Long term	Slight
WA014-030002-	Cairn field (extant)	Medium to High	250m west of T11	Indirect	Negative	Low	Long term	Slight
WA006-022004-	Cist (extant within forestry plantation)	High	1,310m north of T2	Indirect	Negative	Negligible	Long term	Slight
WA005-028----	Enclosure (partially levelled)	Medium to High	1,500m northwest of T1	Indirect	Negative	Negligible	Long term	Imperceptible
WA006-026----	Enclosure (extant)	Medium to High	1,010m north of T2	Indirect	Negative	Negligible	Long term	Not significant
WA014-030003-	Field boundary (extant)	Medium to High	350m south of T10	Indirect	Negative	Low	Long term	Slight



Monument No.	Class	Value of Asset	Distance from nearest turbine	Type of effect	Quality of effect	Magnitude of effect	Duration	Significance of effect
WA006-025----	Fulacht fia (extant within forestry plantation)	Medium to High	1,315m northeast of T2	Indirect	Negative	Negligible	Long term	Not significant
WA006-050----	Fulacht fia (extant)	Medium to High	1,100m northeast of T2	Indirect	Negative	Negligible	Long term	Not significant
WA006-051----	Fulacht fia (extant)	Medium to High	1,160m northeast of T2	Indirect	Negative	Negligible	Long term	Not significant
WA006-056----	Fulacht fia (extant)	Medium to High	1.020m northwest of T1	Indirect	Negative	Negligible	Long term	Not significant
WA014-030001-	Fulacht fia (extant)	Medium to High	425m south of T10	Indirect	Negative	Negligible	Long term	Not significant
WA014-053----	House (levelled)	Low	450m west of T10	Neutral	n/a	n/a	n/a	None
WA006-024001-	Kerb circle (extant in forestry plantation)	High	1,495m northeast of T2	Indirect	Negative	Negligible	Long term	Not significant
WA006-022001-	Ring-barrow (extant in forestry plantation)	High	1,310m north of T2	Indirect	Negative	Negligible	Long term	Not significant



Monument No.	Class	Value of Asset	Distance from nearest turbine	Type of effect	Quality of effect	Magnitude of effect	Duration	Significance of effect
WA006-027----	Ring-barrow (extant in forestry plantation)	High	1,080m northeast of T2	Indirect	Negative	Negligible	Long term	Not significant
WA006-021----	Ringfort (levelled)	Medium to High	1,295m north of T1	Neutral	n/a	n/a	n/a	None
WA006-022003-	Standing stone (extant in forestry plantation)	High	1,390m north of T2	Indirect	Negative	Negligible	Long term	Not significant
WA006-022005-	Standing stone (extant in forestry plantation)	High	1,290m north of T2	Indirect	Negative	Negligible	Long term	Not significant
WA006-022006-	Standing stone (extant in forestry plantation)	High	1,290m north of T2	Indirect	Negative	Negligible	Long term	Not significant
WA014-046----	Standing stone (no trace noted during site survey)	Medium to High	450m west of T10	Neutral	n/a	n/a	n/a	None
WA006-022002-	Stone row (extant in forestry plantation)	High	1,285m north of T2	Indirect	Negative	Negligible	Long term	Not significant



Monument No.	Class	Value of Asset	Distance from nearest turbine	Type of effect	Quality of effect	Magnitude of effect	Duration	Significance of effect
WA006-023001-	Stone row (extant in forestry plantation)	High	1,510m north of T2	Indirect	Negative	Negligible	Long term	Not significant
WA013-007----	Stone row (within field wall)	High	1,800m west of T4	Indirect	Negative	Negligible	Long term	Not significant
None	Potential Standing Stone	Low	160m east of T10	Indirect	Negative	Low	Long term	Slight
None	Drystone structure and associated field boundary	Low	350m northeast of T4	Indirect	Negative	Low	Long term	Slight
None	Field clearance cairns	Low	200m south of T10	Indirect	Negative	Low	Long term	Slight





### *Grid Connection Operational Phase*

As the grid connection will comprise a buried cable within existing roads it will, therefore, result in no predicted direct or indirect effects on the cultural heritage resource during the operational phase. The short section of off road will be constructed by HDD.

### *Turbine Delivery Route Operational Phase*

In the event that any turbines are required to be replaced during the operational phase using the same turbine delivery route utilised during the construction phase, no likely effects on the cultural heritage resource are predicted.

### *BEMP Lands*

The proposed biodiversity enhancement measures are designed to protect and enhance existing habitats and will entail a managed grazing regime within areas of heath and also facilitating the development of heath within areas of reclaimed agricultural land. While there are no recorded archaeological or architectural heritage constraints located within the BEMP lands, two of the potential cultural heritage features, an upright stone and field clearance cairns, noted during field surveys are located within an area of proposed enhancement in Carrickbrack townland in the south end of the Site (see Table 15.12 and Volume IV; Figure 15.1). The biodiversity enhancement measures will not require any ground works that will have the potential to result in direct effects on these potential cultural heritage features and, as neither contain attributes or settings that are dependant on land use practices within their environs, no potential indirect effects resulting from the enhancement measures are predicted.

#### 15.5.5 Decommissioning Phase

No direct effects on known elements of the cultural heritage resource are predicted during the decommissioning phase as there are no recorded cultural heritage assets located within the footprint of the various elements of the wind farm that will be subject to decommissioning. The decommissioning phase will reverse the indirect, visual effects on cultural heritage receptors identified in Table 15.13.

#### 15.5.6 Cumulative Effects

A review of operational, permitted and proposed wind farm developments within 20km of the Proposed Development was carried out in order to assess potential cumulative effects on the cultural heritage resource. This included a review of any available information on archaeological and cultural heritage effect assessments of these developments published on the Waterford City and County Council planning enquiry system<sup>9</sup>, the An Bord Pleanála website<sup>10</sup>, the Database of Irish Excavation Reports<sup>11</sup> and wind farm websites.

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<sup>9</sup> <https://www.eplanning.ie/WaterfordCCC/searchtypes>

<sup>10</sup> <https://www.pleanala.ie/en-ie/home>

<sup>11</sup> <https://excavations.ie/>



There are two operational wind farms and one consented wind farm located within 20 km of the Proposed Development. A single operational wind turbine is located in Kilnagrange townland, Co. Waterford at a distance of approximately 13.8 km east of the Proposed Development (Waterford City and County Council ref. 10/422). A review of the location of this turbine revealed that there are no recorded cultural heritage constraints located at this location. In addition, a review of the landscape between this single turbine and the Proposed Development revealed that it contains no notable cultural heritage constraints with heightened visual sensitivities, including National Monuments or archaeological monuments with ritual alignment attributes, such as megalithic tombs or stone circles.

Woodhouse Wind Farm is an operational eight turbine wind farm located in Glenbeg, Co. Waterford and is located approximately 17.5 km southwest of the Proposed Development. The permitted Knocknamona Wind Farm, which will include eight turbines, was granted permission in 2022 and is located immediately south of the existing Woodhouse Wind Farm. A review of the EIS prepared for Woodhouse Wind Farm revealed that the assessment predicted no significant impacts on the cultural heritage resource<sup>12</sup>. The EIS prepared for the Knocknamona Wind Farm development was also reviewed and this predicted no significant effects on the cultural heritage resource<sup>13</sup>. A review of the landscape between the locations of these developments and the Proposed Development revealed that it contains no notable cultural heritage constraints with heightened visual sensitivities, including National Monuments or archaeological monuments with ritual alignment attributes, such as megalithic tombs or stone circles.

The proposed twelve turbine Dyrick Hill Wind Farm is located 8.4m to the east of the Proposed Development. A review of the EIAR compiled for this proposed development revealed that it is not predicted to result in any significant effects on the cultural heritage resource in its environs or within the wider landscape<sup>14</sup>. In addition, there are no notable cultural heritage constraints with heightened visual sensitivities, including National Monuments or archaeological monuments with ritual alignment attributes, such as megalithic tombs or stone circles, located within the landscape between Dyrick Hill Wind Farm and the Proposed Development.

Given the absence of significant effects on the recorded cultural heritage resource arising from the Proposed Development, in combination with the results of the above review, the Proposed Development is not predicted to contribute to any significant direct cumulative effects on the cultural heritage resource within the wider landscape. As described in Section 15.5.4, a review of archaeological monument types with visual alignment attributes within 10km of the Site revealed that the Proposed Development will not result in any predicted moderate or significant indirect negative effects on their settings or alignments. The review of available information on cultural heritage impact assessments on operational, permitted and proposed wind farm developments within 20km of the Proposed Development revealed no instances of predicted significant, indirect effects on any monuments within the wider environs of those development locations. Given these factors in combination with the distances of the reviewed developments from the Proposed Development it is, therefore, concluded that the Proposed Development will not act in combination with the reviewed developments to result in likely significant indirect negative cumulative effects on the settings or alignments of such ritual monuments within the wider landscape.

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<sup>12</sup> <http://193.178.30.153/iDocsWebDPSS/ViewFiles.aspx?docid=347182&format=jpeg>

<sup>13</sup> <http://193.178.30.153/iDocsWebDPSS/ViewFiles.aspx?docid=248612&format=jpeg>

<sup>14</sup> <https://www.dyrickhillwindfarm.ie/>



## 15.6 Mitigation Measures

The wind farm layout was informed by the archaeological desktop studies and fieldwork undertaken during the design and assessment phases and was designed to avoid the locations of all known or potential archaeological monuments and other identified cultural heritage constraints within the Site and its environs. The mitigation measures presented in this section was formulated based on the results of the assessment and has been informed by the nature of existing conditions within the Site and has also been formulated in accordance with guidelines for archaeological planning conditions published in Section 7.4 of the *2006 Wind Energy Development Guidelines* and in Section 7.6 of the *2019 Draft Revised Wind Energy Development Guidelines*.

A suitably qualified archaeologist will be employed to monitor construction phase ground works under licence by the National Monuments Service (NMS) of the Department of Housing, Local Government and Heritage. In the event that any archaeological sites or features are identified during monitoring, ground works will halt at the location and the archaeological remains will be securely cordoned off and recorded. The NMS will then be notified and consulted to determine further appropriate mitigation measures, which may include preservation in situ by avoidance or preservation by record through a systematic, licensed archaeological excavation.

Cordoned off buffer zones around the three undesignated cultural heritage constraints identified within the Site, which comprise a drystone agricultural structure and associated field, an upright stone and field clearance cairns will be established by the archaeologist appointed to monitor the construction phase, and these will extend at a minimum of 10m from the outer edges of these features. The buffer zones will be securely fenced off and clearly signed as 'No Entry' areas for the duration of the construction phase. No ground excavation works, machinery traffic, storage of materials or any other activity related to construction will occur within these buffer zones. The locations of these onsite constraints will also be identified as 'no-entry' areas during the construction phase site inductions.

### *Monitoring of mitigation measures*

There are a number of obligatory processes to be undertaken as part of archaeological licence applications which will allow for monitoring of the successful implementation of the archaeological mitigation measures. These include the submission of method statements detailing the proposed strategy for all site investigations for the approval of the National Monuments Service as part of the licence application. These documents will clearly outline the proposed extent of works and outline the onsite and consultation processes to be enacted in the event that any unrecorded archaeological sites or features are identified. A report will be compiled on all site investigations to comply with the licensing process which will clearly present the results in written, drawn and photographic formats and copies will be submitted to the National Monuments Service, the Planning Authority and the National Museum of Ireland.

## 15.7 Residual Effects

The mitigation measures presented in Section 15.6 will provide for either the avoidance of the potential unrecorded, sub-surface archaeological resource within the footprint of Proposed Development locations or the proper and adequate recording of this resource by full archaeological excavation. Preservation in situ shall allow for a negligible magnitude of effect resulting in a potential not significant/imperceptible significance of effect in the context of residual effect on the unrecorded archaeological resource. Preservation by record shall allow for a high magnitude of effect, albeit ameliorated by the creation of a full and detailed archaeological record, the results of which shall be publicly disseminated. This shall result in a potential slight/moderate range of significance of effect in the context of residual effects on the unrecorded archaeological resource.



While the Proposed Development will result in not significant to slight, indirect, negative residual effects on the settings of archaeological sites located within the surrounding landscape during the operational phase, these indirect effects will be reversed following the decommissioning phase.

## 15.8 Conclusion

The Proposed Development will not result in any direct negative effects on any known archaeological monuments, designated architectural heritage structures or vernacular structures. In the event that any sub-surface archaeological remains are identified during the archaeological monitoring of the construction phase, they will be cleaned, recorded and left to remain *in situ* within cordoned off areas while the NMS are notified and consulted in relation to appropriate future mitigation strategies, which may include preservation in situ (by avoidance) or preservation by record (archaeological excavation). The Proposed Development will result in not significant to slight, indirect, negative effects on the archaeological sites located within the surrounding landscape during the operational phase. These indirect effects are not permanent and will be reversed following the decommissioning phase.

The Proposed Development will not result in any predicted significant effects on the cultural heritage resource.



## 15.9 References

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<http://maps.osi.ie/publicviewer/#V2,591271,743300,1,10> (Historic maps)

<http://downsurvey.tcd.ie/down-survey-maps.php> (Down Survey)

[http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI\\_Simple](http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI_Simple) (Bedrock)

[www.archaeology.ie](http://www.archaeology.ie) (SMR and NIAH)

[www.excavations.ie](http://www.excavations.ie) (Excavations Database)

[www.logainm.ie](http://www.logainm.ie) (Placenames)

[www.heritagemaps.ie/WebApps/HeritageMaps/index.html](http://www.heritagemaps.ie/WebApps/HeritageMaps/index.html) (Various heritage datasets)

[www.duchas.ie](http://www.duchas.ie) (Irish Folklore Schools Collection)



## NTS. 15 CULTURAL HERITAGE

Chapter 15 assesses the potential effects of the Project on the known and potential cultural heritage resource which encompasses assets relevant to both the tangible resources, such as archaeology and architecture heritage; and non-tangible resources including history, folklore, tradition, language and placenames).

The Archaeological Survey of Ireland has classified the only two recorded archaeological sites (WA014-042---- & WA014-044----) located within the Site as 'redundant records' as they have concluded that neither are archaeological in origin. There are an additional 28 recorded archaeological sites, two of which are redundant records, located within lands extending for 1km in all directions from the Site boundary. All of these sites are located within private lands not accessible to the public. A review of the landscape extending for 10m in all directions from the Site revealed that there are no National Monuments within this area. There are ten extant prehistoric archaeological monuments with potential visual alignments located in private lands within 10km of the Site and these comprise standing stone pairs, stone rows and an unclassified megalithic tomb. A review of Archaeological Survey of Ireland descriptions of these monuments revealed that none have recorded alignments orientated directly towards the Site.

There are no Protected Structures, Architectural Conservation Areas or structures/lands included in the National Inventory of Architectural Heritage located within the Site or in the surrounding 1km study area.

There were three previously unrecorded features of cultural heritage potential identified within the Site during field-walking surveys. These comprise a drystone structure (with an associated field) which is of vernacular heritage interest, an upright stone of archaeological potential and a cluster of small field clearance cairns which may be of recent origin. There are no proposed development works at any of their locations and the mitigation strategies presented in the chapter include measures to ensure that they will be adequately protected within appropriate buffer zones during the construction phase. No direct construction phase effects on any of these undesignated constraints are, therefore, predicted.

While there are a number of archaeological and architectural heritage constraints located within the environs of the grid connection route localised work areas required to facilitate the delivery of turbines of the Site, no direct effects on any of these constraints are predicted.

There are no known archaeological, architectural or cultural heritage constraints located within the footprint of the development works, and there will, therefore, be no direct physical effects on any known archaeological or architectural heritage constraints during any phase of the Development.

The Proposed Development has the potential to contain unrecorded, sub-surface archaeological remains and should the presence of such remains be revealed during the construction phase, they would be likely to suffer a high magnitude of impact. As such, the mitigation for potential effects on unknown archaeological remains will entail archaeological monitoring of ground works during the construction phase under licence by the National Monuments Service and this will be carried out by a suitably qualified archaeologist. In the event that any sub-surface archaeological remains are identified during monitoring they will be recorded in situ and securely cordoned off while the National Monuments Service are consulted to determine further appropriate mitigation measures, which may include preservation in situ (by avoidance) or preservation by record (archaeological excavation).

The Operational phase will result in a range of long term, indirect negative effects on the wider settings of archaeological sites within the environs of the Site which will range from not significant to slight in significance. Given the nature of the wind farm turbines there are no mitigation measures that can remove or reduce these indirect effects, but it is noted that they will be reversed following the decommissioning phase.



The Construction and Operational phases will not result in any predicted significant effects on the cultural heritage resource. The assessment does not predict any likely cumulative or residual effects on the cultural heritage resource that are significant in terms of the EIA Regulations.



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