

13 CULTURAL HERITAGE

13.1 INTRODUCTION

This Chapter describes archaeology, architectural, and cultural heritage that are potentially impacted by the project (please refer to section 2.3 of Chapter 2 for a full description of the project and the proposed development). The purpose of this assessment is to identify relevant archaeological, architectural, and cultural heritage that are within the vicinity of the project site, to determine the impact, if any, on these heritage assets.

The chapter sets out the methodology followed in carrying out the assessment (Section 13.1.2), describes the receiving environment (Section 13.2), and summarises the main characteristics of the proposed project which are of relevance to the archaeological, architectural and cultural heritage.

The evaluation of the predicted impacts of the proposed project and replacement lands on archaeological, architectural and cultural heritage are described (Section 13.3), measures are proposed to mitigate these impacts and residual impacts are described (Section 13.4 and Section 13.5). All heritage assets are illustrated on Figures 13.1-13.8, in **Volume III, Appendix 13-1**.

13.1.1 Scope of assessment

The baseline assessment of the project is discussed under four sections:

- The proposed project (the wind farm and turbine delivery route works areas) and associated grid connection route (Section 13.2.1),
- the replacement lands at Cooraclare, Co. Clare (Section 13.2.2),
- the replacement lands at Ballard, Co. Wicklow (Section 13.2.3) and
- the replacement lands at Trillackacurry, Co. Longford (Section 13.2.4).

This chapter of the EIAR determines, as far as reasonably possible from existing records, the nature of the heritage resource within the footprint of the Project and replacement lands and within the receiving environments using appropriate methods of study. The assessment consists of an analysis of existing written, cartographic, photographic and electronic information in order to identify the likely heritage assets (archaeological, architectural and cultural), their interests and significance and the character of the receiving environments, including appropriate consideration of the setting of heritage assets (ClfA 2014). This leads to the following:

- Determining the presence of known archaeological, architectural, and cultural heritage assets that may be directly affected by the proposed project and replacement lands;
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the construction programme;
- Determining the impact upon the setting of known heritage assets in the receiving environments; and
- Suggested mitigation measures based upon the results of the above research.

13.1.2 Methodology

Research for this assessment has been undertaken in two phases:

- The first phase comprised a paper survey of all available archaeological, architectural, historical and cartographic sources.
- The second phase involved field inspections of the proposed project and replacement lands.

The study involved detailed interrogation of the archaeological, historical, and architectural nature of the receiving environments of the proposed Project and replacement lands. This included information from the Record of Monuments and Places of Counties Clare, Wicklow and Longford, the County Development Plans, the topographical files of the National Museum of Ireland, and cartographic and documentary records. Aerial photographs of the receiving environments were also consulted. Field inspections were carried out at the site of the proposed Project and replacement planting sites from October 2018 to February 2020 in an attempt to confirm the form, extent, and condition of heritage assets identified through desktop research and to identify any known cultural heritage sites assets and previously unrecorded features, structures, and portable finds within the footprint of the proposed Project and replacement lands.

The receiving environment of the proposed wind farm is defined as an area measuring 2km from the edge of the site area (hereafter known as ‘the proposed project boundary’). A study area of 500m was applied to the receiving environment of the proposed turbine delivery works areas. A proposed grid connection will run from the wind farm to Ardnacrusha, c. 14km south of the wind farm. A 250m study area either side of the route was used to assess the receiving environment of this element of the proposed Project. With regard to the assessment of the impact to the setting of nationally significant archaeological monuments (categorised as those subject to Preservation Orders and/or National Monuments in State ownership or guardianship), a receiving environment of 10km was defined.

The receiving environment of the works areas and replacement lands is defined as an area measuring 500m from the edge of the land parcels. Measurements are taken from the proposed Project and site boundaries to the upstanding remains of a site or structure. Where there are no upstanding remains, the measurements are taken to the centre of the site as indicated within Figures 13.1-13.-8, in **Volume III, Appendix 13-1**.

The following sources were examined and a list of heritage assets and areas of archaeological and cultural heritage potential was compiled:

- Record of Monuments and Places for Counties Clare, Wicklow and Longford;
- Sites and Monuments Record for Counties Clare, Wicklow and Longford;
- National Monuments in State Care Database;
- List of Preservation Orders;
- Register of Historic Monuments;
- Topographical files of the National Museum of Ireland;
- Cartographic and documentary sources relating to the receiving environment;
- The development plan for Counties Clare, Wicklow and Longford;
- National Inventory of Architectural Heritage Counties Clare, Wicklow and Longford (Architectural & Garden Survey);
- Aerial photographs;
- Excavations Bulletin (1970—2019); and

- Place name analysis

Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments Act (1994 amendment) which provides that the Minister for Culture, Heritage and the Gaeltacht shall establish and maintain a record of monuments and places (RMP) where it is known that such monuments exist. The record comprises of a list of monuments and relevant places and mapping showing each monument and relevant place in respect of each county in the State. Sites recorded on the RMP all receive statutory protection under the National Monuments Act. All sites listed on the RMP are referred to as Archaeological Heritage (AH sites) within this assessment.

Sites and Monuments Record (SMR) holds documentary evidence and records of field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded. These are known to the National Monuments Section as termed 'un-located sites' and cannot be afforded legal protection. As a result, these are omitted from the Record of Monuments and Places. SMR sites are also listed on a website maintained by the DoCHG – www.archaeology.ie. All sites listed on the Sites and Monuments Record are referred to as Archaeological Heritage (AH sites) within this assessment.

It should be noted that revisions are proposed to the RMP and SMR, with some sites listed as redundant records and proposed for removal and other, newly discovered sites, proposed for inclusion. As the revisions have yet to take place, all current RMP/SMR sites are listed as AH sites within this assessment, with the relevant detail provided as to the nature and extent of each site included.

National Monuments in the State Care Database is a list of all the National Monuments in the State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of each monument.

A National Monument receives statutory protection and 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' (National Monuments Act, 1930, Section 2).

The Minister for Culture, Heritage and the Gaeltacht may acquire National Monuments by agreement or by compulsory order. The State or Local Authority may assume guardianship of any National Monument (other than dwellings). The owners of National Monuments (other than dwellings) may also appoint the Minister or the Local Authority as guardian of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State, it may not be interfered with without the written consent of the Minister. There are no National Monuments located within the footprint of the proposed Project, the closest is located 6km to the southeast.

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

Orders with the written consent, and at the discretion, of the Minister (DoCHG). There are no sites that possess Preservation Orders within the Project, the closet is located 6km to the southeast.

Register of Historic Monuments was established under Section 5 of the 1987 amendment to the 1930 National Monuments Act and requires the Minister to establish and maintain such a record. Historic monuments and archaeological areas included in the register are afforded statutory protection under the National Monuments Act 1987 amendment. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the RMP.

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

Cartographic sources are important in tracing land use development within the proposed Project and its receiving environment as well as providing important topographical information on areas of archaeological potential and the construction of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape. These include current and former townland and parish boundaries.

All sites of potential archaeological or architectural heritage merit identified during the map analysis are listed as Cultural Heritage (CH) sites within this assessment. In addition, all Areas of Archaeological Potential (AAPs) identified during the analysis of mapping (and other sources including field inspection) are referred to as AAPs within this assessment.

The cartographic sources consulted include:

- Down Survey Baronies of Tullogh and Moyfertagh Co. Clare (c. 1655), Barony Map of Ballineer, Co. Wicklow (1654-6), Barony of Moydow and the Parish of Ballimackormacke and Killish, c. 1655
- Neville's Map of Co. Wicklow (1760)
- Ordnance Survey 6" and 25" maps of Co. Clare (1840, 1907), Co. Wicklow (1838, 1907) and Co. Longford (1836-7, 1911-2)

Documentary sources were consulted to compile background information on the archaeological, architectural and cultural heritage receiving environment of the proposed Project and replacement lands. A full list of references is given in Section 13.7.

Development Plans contain a catalogue of all the Protected Structures, archaeological sites and Architectural Conservation Areas within every county. The development plans for County Clare (2017-2023), County Wicklow (2016-2022) and Longford County Development Plan 2015-2021 were examined as part of this assessment. All protected structures are referred to as Built Heritage sites (BH) as part of this assessment.

The National Inventory of Architectural Heritage (NIAH) was established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999. It is a government-based organisation tasked with making a nationwide record of locally, regionally, nationally and internationally significant structures dating to post-1700 AD, which in turn provides county councils with a guide as to what structures to list within the Record of Protected

Structures. Only those structures of regional importance or above are included in the Minister's recommendations for inclusion in the RPS. The NIAH have also carried out a nationwide desk-based survey of historic gardens, including demesnes that surround large houses. All NIAH structures are referred to as Built Heritage sites (BH) as part of this assessment.

Whilst the **NIAH Garden Survey** was utilised as part of this assessment, this was carried out in conjunction with detailed analysis of the first edition Ordnance Survey maps and field inspection, in order to identify all designed landscapes (DL) within the receiving environment of the proposed Project and replacement lands.

Aerial photographic coverage is an important source of information regarding the precise location of sites and their extent. It also provides information on the terrain and its likely potential for archaeology. Ordnance Survey aerial photographs (1995-2013), Google Earth coverage (2003-2020), and Bing Maps (2018-2020) were examined for this assessment. All potential archaeological sites identified during cartographic or aerial photographic assessment are referred to as Cultural Heritage (CH) sites within this assessment.

Excavations Bulletin is a summary publication that has been produced every year since 1970. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is also available online (www.excavations.ie) from 1970-2019. Information from this resource is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files.

Place Names are an important part in understanding both the archaeology, history and cultural heritage of an area. Place names can be used for generations and in some cases have been found to have their roots deep in the historical past. The main references used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870), and the Place Names Database of Ireland (www.loganim.ie).

Field Inspection

Field inspection is necessary to determine the extent and nature of archaeological, architectural, and cultural heritage remains and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information. The field inspection for the proposed project was carried out from 22nd-23rd November 2018, Wicklow Replacement lands field inspection was carried out 29th October 2019, the Co. Clare replacement lands inspection was carried out 30th October 2019 and the Co. Longford replacement lands inspection was carried out 21st November 2018 and entailed:

- Noting and recording the terrain type and land usage;
- Noting and recording the presence of known and previously unknown features of archaeological, architectural or cultural heritage significance;
- Verifying the extent and condition of recorded sites and structures (RMPs/ RPS/ NIAH); and
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin and of archaeological, architectural or cultural heritage significance.

13.1.3 Assessment Criteria

Impact Evaluation Methodology

The assessment has been carried out in accordance with the Code of Practice for Archaeology agreed between the Minister for Culture, Heritage and the Gaeltacht and Coillte (2000) and the Environmental Protection Agency (EPA) Environmental Impact Assessment Guidelines and advice notes (2003 & 2017).

The following legislation, standards and guidelines were also consulted as part of the assessment:

- National Monuments Act 1930 to 2014;
- The Planning and Development Acts 2000 to 2017;
- Heritage Act, 1995, as amended;
- Guidelines on the information to be contained in Environmental Impact Statements, 2003, EPA;
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements), 2003, EPA;
- Draft Advice Notes on Current Practice (in preparation of Environmental Impact Statements), 2015, EPA;
- Guidelines on the information to be contained in Environmental Impact Statements, Draft 2003, EPA;
- Guidelines on the information to be contained in environmental impact assessment reports (Draft August 2017), EPA;
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht and Islands; and
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 2000 and the Local Government (Planning and Development) Act 2000.

The quality and type of potential impacts can vary to include the following:

- Negative Impact: A change that will detract from or permanently remove an archaeological/architectural heritage site monument/structure from the landscape.
- Neutral Impact: A change that does not affect the archaeological/architectural heritage
- Positive Impact: A change that improves or enhances the setting of an archaeological/architectural heritage monument/structure.
- Direct Impact: Where an archaeological/architectural feature or site is physically located within the footprint of the proposed Project and entails the removal of part, or all of the monument or feature.
- Indirect Impact: Where an archaeological/architectural heritage site or site of archaeological/architectural heritage merit or its setting is located in close proximity to the proposed Project.
- No Predicted Impact: Where the proposed Project does not adversely or positively affect an archaeological/architectural heritage site.

It should be noted that whilst impact levels and definitions are applied consistently to the cultural heritage resource, direct impacts on sites that are subject to statutory protection are considered to be more significant than sites/structures not subject to statutory protection.

Impact definitions as per the most recent EPA guidelines (2017)

Table 13.1 Impact definitions for archaeological assets

Type of Impact	Definitions relating to sites of an archaeological nature
Profound	Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise when an archaeological site is completely and irreversibly destroyed by a proposed development.
Very Significant	Effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
Significant	An impact which, by its magnitude, duration or intensity, alters an important aspect of the environment. An impact like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about the archaeological feature/site.
Moderate	A moderate impact arises where a change to the site is proposed, which although noticeable, is not such that the archaeological integrity of the site is compromised and which is reversible. This arises where an archaeological feature can be incorporated into modern day development without damage and that all procedures used to facilitate this are reversible.
Slight	An impact which causes changes to the character of the environment which are not significant or profound and do not directly impact or affect an archaeological feature or monument.
Not significant	Impacts which cause noticeable changes in the character of the environment but without noticeable consequences
Imperceptible	An impact capable of measurement but without noticeable consequences.

Table 13.2 Impact definitions for architectural assets

Type of Impact	Definitions relating to sites of an architectural nature
Profound	An impact that obliterates the architectural heritage of a structure or feature of national or international importance. These effects arise where an architectural structure or feature is completely and irreversibly destroyed by the proposed development. Mitigation is unlikely to remove adverse effects.
Very Significant	Impacts which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
Significant	An impact that, by its, magnitude, duration or intensity alters the character and/or setting of the architectural heritage. These effects arise where an aspect or aspects of the architectural heritage is/are permanently impacted upon leading to a loss of character and integrity in the architectural structure or feature. Appropriate mitigation is likely to reduce the impact.
Moderate	An impact that results in a change to the architectural heritage which, although noticeable, is not such that alters the integrity of the heritage. The change is likely to be consistent with existing and emerging trends. Impacts are probably reversible and may be of relatively short duration. Appropriate mitigation is very likely to reduce the impact.
Slight	An impact that causes some minor change in the character of architectural heritage of local or regional importance without affecting its integrity or sensitivities. Although noticeable, the effects do not directly impact on the architectural structure or feature. Impacts are reversible and of relatively short duration. Appropriate mitigation will reduce the impact.
Not significant	Effects which cause noticeable changes in the character of the environment but without noticeable consequences
Imperceptible	An impact on architectural heritage of local importance that is capable of measurement but without noticeable consequences.

13.2 EXISTING RECEIVING ENVIRONMENT

The following baseline assessment has been split into four sections to describe the project, one addressing the receiving environment of the proposed development (wind farm site and turbine delivery route) and the grid connection works areas at and close to Carrownagowan (collectively known as the proposed Project), one addressing the replacement forestry lands at Cooraclare, Co. Clare, one addressing the replacement forestry lands at Ballard Co. Wicklow, and the final addressing the replacement forestry lands at Trillickacurry, Co. Longford.

13.2.1 The Proposed Project

13.2.1.1 Archaeology

The proposed wind farm development occupies parts of the townlands of Ballydonaghan, Caherhurly, Cournagun, Carrownagowan, Kilbane, Killokennedy, and Inchlughoge, in County Clare. The proposed grid connection travels through the townlands of Cloongaheen West, Cloongaheen East, Killeagy, Ballymoloney, Ballyquin Beg, Ballyquin More, Springmount, Leitrim, Fahy More South, Aharinaghmore, Tooreen, Cloghera, Trough, Knockdonagh, Roo West, and Lakyle. The proposed works areas (1, 2 and 3) along the turbine delivery route are located in the townlands of Coolready and Ballydonaghan. There are no Recorded Monuments within the boundaries of the proposed Project; however, there are a total of 54 Recorded Monuments within the receiving environment.

There are no National Monuments in State Care or monuments subject to Preservation Orders within 2km of the proposed Project. Four National Monuments and three monuments subject to a Preservation Order located within 10km of the proposed Project. Full details of all archaeological assets are given in Appendix 13.2 and shown on Figures 13.1–13.4.

Mesolithic Period (6000–4000 BC)

Until recently, the Mesolithic period was believed to be the first time for which there was evidence of human occupation on the island of Ireland. However, recent research by Dowd and Carden has suggested there may have been a human presence in the southern half of Ireland as early as the Upper Palaeolithic (2016). During the Upper Palaeolithic, most of Ireland would have been beneath extensive glaciation. It has long been suggested that if humans were present on the island they would have been confined to the southwest (Woodman, 1998). Re-examination of a butchered brown bear patella originally found in Alice and Gwendoline Cave in 1903, located c. 27km west of the proposed Project, revealed evidence of butchery marks and was dated to 12,810–12,590 cal BP and 12,810–12,685 cal BP. Expert zoo-archaeological analysis revealed the patella was butchered with a lithic tool, after a ‘short post mortem interval’ and therefore the marks could not have been made later than the Upper Palaeolithic (Dowd and Carden, 2016). Furthermore, it was deemed impossible that the bear patella was deposited by glacial action as it showed no evidence of being weathered (*ibid.*)

Lough Derg is located c. 3.8km east of the proposed Project. There are a large number of prehistoric sites associated with the lake and it would certainly have provided ample resources to a Mesolithic community. During the Mesolithic people hunted, foraged and fished for sustenance, leading transient lifestyles. Coastal and riverine locations were particularly favourable as a result. Lakes and rivers, provided fresh water and fish, as well as attracting animals. It has been suggested that fish and fowl

played a larger role in the diets of Irish people during the Mesolithic when compared to their European counterparts as Ireland had a less diverse range of large mammals to hunt (Woodman et al, 1997). Rivers also provided a transport network through a landscape which was heavily forested in places. Due to the mobile nature of the Mesolithic lifestyle, little evidence remains in terms of settlement. Often the only trace of Mesolithic activity are scatters of stone tools and the by-products of their manufacture, debitage. Occasionally, shell middens are also found to date to the Mesolithic period.

There are no Mesolithic sites recorded within the receiving environment of the proposed Project.

Neolithic Period (4000–2500 BC)

The Neolithic period is marked by the introduction of agriculture to Ireland and the widespread adoption of agriculture as a way of life. Agriculture facilitated a more sedentary lifestyle. Settlement became more permanent, with rectangular timber houses constructed, sometimes with internal divisions and hearths. Significant social change accompanied the transition from Mesolithic to Neolithic. A new-found concern for claims to land on which to farm contributed to the tradition of megalithic tomb construction in the Neolithic. There are four types of megalithic tombs: court tombs, portal tombs, passage tombs and later wedge tombs. Megalithic tombs were communal tombs and ceremonial centres. They are monumental structures that would have required a high level of cooperation and planning to achieve, suggesting complex Neolithic societies.

There are a number of wedge tombs in the vicinity of the proposed wind farm; however, these are discussed below as they date to the early Bronze Age.

Bronze Age (2500–500 BC)

Wedge tombs represent the final phase of megalithic tomb construction in Ireland, they generally date to the early Bronze Age and are concentrated largely in the west of Ireland. There are four wedge tombs located within the receiving environment of the proposed wind farm. AH 10 is located c. 640m south of the proposed Project. The tomb was described by Bentley c. 1917, but its location is now unclear as it appears it has become overgrown by bog (SMR file). A second wedge tomb (AH 4) is recorded in the townland of Cloongaheen West, c. 1.1km south of the proposed wind farm. The monument stands in a sloping field situated high up on the south-western spur of the Slieve Bernagh mountains, at c.230m above Ordnance Datum (aOD). The ground falls sharply to the southeast, where there are extensive views across the Broadford valley towards the Galty Mountains (De Valera and O Nuallain, 1961, p.82). The landscape to the north and northeast rises sharply to a height of c.330m aOD, restricting views in this direction. The remains of the wedge tomb are scant and overgrown.

Another wedge tomb (AH 6) is recorded in the townland of Killokennedy, c. 1.15km south of the proposed wind farm, at c.270m aOD. The monument stands on steeply sloping ground on the southern slope of the Slieve Bernagh mountains. The landscape again rises sharply to the north to the peak of the mountain at c.460m aOD, restricting views in this direction. There are wide ranging views to the south east towards the Galty mountains (De Valera and O Nuallain, 1961, p.84). The tomb has collapsed and consists of semi-prostrate slabs (*ibid.*).

A further wedge tomb (AH 1) is recorded c. 980m southwest of the proposed grid connection in the townland of Drummin. It is located at c.190m aOD, with the landscape rising sharply to the east to a height of c.280m aOD. De Valera and O Nuallain record the tomb as being fairly well preserved in

1961, but used as a dump for field stones (De Valera and O Nuallain, p. 82). The frequency of wedge tombs in the landscape to the south of the proposed wind farm indicates a definitive Bronze Age presence in the landscape and there are further examples of this monument type further to the southeast and east of the receiving environment.

As stated above, wedge tomb construction continued into the early Bronze Age, but declined with burial of the individual becoming favoured over the communal approach of the megalithic tomb tradition. Individuals were cremated or inhumed, sometimes in cemeteries and often accompanied by a pottery vessel. The most common indicator of Bronze Age activity is the *fulacht fia* or burnt mound. These sites are identifiable as horse-shoe shaped mounds of charcoal-rich material and burnt stone, often in associated with one or more trough features. Their function was to heat water using hot stones in a trough. Traditionally they were interpreted as cooking sites, following experiments in the 1950s which successfully boiled mutton in this manner (O’Kelly, 1954). More recently this interpretation has been questioned given that the vast majority of *fulachta fia* sites do not produce significant amounts of animal bone. Alternative interpretations include brewing, (Quinn and Moore, 2009), tanning (Waddell, 1998) and bathing (Eogan and Shee Twohig, 2012). *Fulachta fia* require a water source to fill the trough and are usually located in boggy, marshy land or beside a river or stream. The Owenogarney stream runs northwest to southeast through the wind farm, although no evidence for *fulachta fia* were noted during the field inspection.

Another example of Bronze Age activity in the area is a standing stone (AH 27), recorded c. 960m east of the grid connection in the townland of Cloongaheen West. Standing stones are difficult to date; however, it is generally accepted that they belong to the Bronze Age and/or Iron Age. While relatively few have been excavated, it has been suggested some may act as grave markers. Boundary or route way markers have also been suggested as functions of standing stones. In this case, the standing stone (AH 27) is located on the top of a small hillock and stands at a height of 2.4m but collapsed in 1918 (SMR file). It should be noted that some standing stones represent cattle scratching posts erected in relatively recent times, although it seems unlikely in this case due to the large size of the stone and its seemingly carefully chosen site on the top of a hillock. Interestingly, this standing stone is labelled *Farbreaga* on the first edition Ordnance Survey map of 1842. This name may derive from the Irish *Fear Breagach* meaning ‘the false or lying man’, perhaps suggesting a local folkloric name for the standing stone.

Iron Age (500 BC–AD 400)

The Iron Age has traditionally been viewed as a period for which there is relatively little evidence in Ireland. The adoption of iron as a material preferred over bronze appears to have happened slowly. There are two phases of the Irish Iron Age, as in Europe, the earlier Hallstatt and the later La Tene, each with its own distinctive metalwork styles. Strong links with Europe are evident, with ideas clearly transmitting both from Europe to Ireland and Ireland to Europe, as well as materials. Various discoveries of Roman artefacts in Ireland suggest particularly strong links across the Irish Sea at the time. There are no recorded sites of Iron Age date within the receiving environment of the proposed Project.

Early Medieval Period (AD 400–1169)

The early medieval period is depicted in the surviving sources as entirely rural. It is estimated that there was as many as 150 kings in Ireland during this time, each ruling over the basic territorial unit-

the *túath* (Byrne, 1973). A *túath* has been described not only as a unit of land but also as a ‘people’ or ‘community of farmers’ (Stout, 2017). If current estimates placing the population of early medieval Ireland at between quarter and half a million people are correct, the king of a *túath* would have ruled between 1,700 and 3,300 subjects (*ibid.*). Many of these subjects would have lived in ringforts from the 6th century onwards.

Ringforts are described as farmsteads defended by a circular enclosure. The need for defences does imply that boundaries, territories and leadership changed frequently in the early medieval period. This area of modern County Clare lay on the borders of the over-kingdom of *Mumu* in the early medieval period and there were likely frequent raids from the neighbouring Kingdom of Connacht. The enclosure of a ringfort may consist of a single bank and ditch (univallate) or two or more lines of defences (bivallate or multivallate). Traditionally, the occupants of multivallate ringforts are considered to be of higher status, perhaps local leaders (Edwards, 1996). There are over 47,000 ringforts recorded across Ireland, however, many have been levelled in recent centuries to facilitate more efficient agriculture. While those sites affected may not be visible at ground level, they commonly survive as sub-surface features. Furthermore, any sites recorded as enclosures may represent ringforts. They may have been recorded as enclosures because they are too denuded to classify or because they do not conform to the accepted shape or measurement ranges of the ringfort. Earthen ringforts are known as raths, while those enclosed by stone walls are termed cashels. Cashels are more common in the west of Ireland where stone is more readily available as a building resource. There are also examples of ringforts which are defended by a combination of earthen and stone-built defences.

There is one ringfort (AH 9) recorded c. 1.4km north of the proposed wind farm in the townland of Caherhurly. It is described as having an outer ring 2.5–3m thick and 1.8m high. The fosse is 3.6–5.5m wide and 1.2–2.4m deep. The outer bank of the main fort is very steep, 3.6m thick and high. The width of the ringfort is 54m east and west and 58m north and south. There is a strong ring wall 4.3–5.5m wide inside the outer bank but little of the outer facing remains (SMR file). A second ringfort (AH 48) is recorded 230m southwest of Works Area 2 in the townland of Coolready.

In addition, a total of 28 enclosures are recorded within the receiving environment of the proposed Project (AH 2, 5, 7, 8, 11 – 17, 23, 24, 26, 28 – 31, 33, 35, 36, 38, 39, 41 – 45). If even a portion of these 28 enclosure sites are of early medieval date, it would suggest a successful early medieval population in the area. There is a clear pattern in the distribution of these enclosures, with eleven located to the north of the proposed wind farm; 15 to the south and two to the east. These enclosures are all located on lower ground, surrounding the mountain. These areas would have been, and still are, far more suitable for farming and settlement than the slopes and peaks of the nearby mountain.

This period was also characterised by the introduction of Christianity to Ireland. The new religion was a catalyst for many changes, one of the most important being literacy. Irish was written down for the first time using the ogham script. The ogham alphabet is thought to be based on the Latin alphabet of the later Roman Empire and today the majority of the inscriptions that survive are located on pillar stones or boulders. Monasticism was known in St. Patrick’s time (mid-5th century) but it was not until the 6th and 7th centuries that the famous monastic houses such as Glendalough, Bangor, Clonfert, Clonard, Clonmacnoise and Durrow were founded. Located c. 9km northeast of the Project is Holy Island, situated on Lough Derg. This island is home to an early medieval ecclesiastical complex which

is a National Monument in State Care, with over 200 monuments recorded on the island (AH 52). The ecclesiastical complex at Holy Island, also known as *Inis Cealtra*, was founded in the 6th century and was an important site of pilgrimage up until the 17th century. The foundation of the complex has been associated with three different saints, St Mac Reithe/Mac Creiche; St Colum of Terryglass and St Caimin (McCarthy et. al. 2017, p.24).

The range and variety of buildings and monuments on the island is significant and include four pre-1200 churches; a round tower; a large corpus of early medieval cross-slabs and grave-slabs; high crosses and cross fragments; cross-basses; small crosses; sundials; bullaun stones; a shrine complex; a holy well; a range of earthworks and route ways dating from the early medieval period onwards. A post-medieval church and children's burial ground on a probable early medieval church site are also present, along with three graveyards with rare 17th and 18th century grave memorials and other post-medieval and modern grave monuments (McCarthy et. al. 2017, p.1). The majority of the monuments are concentrated on the eastern side of the island.

The earliest radiocarbon date obtained from a feature to the west of St. Caimin's Church on the island was a date of 551–639 AD (O'Sullivan and Seaver 2015, 35). However, flint arrowheads and axes of possible late Neolithic/early Bronze Age date have been found north of St. Brigid's Church, while a number of possible Bronze Age log boats have been discovered near to the islands northeast coast, c.40m offshore (ibid. p.2).

The location of the complex on *Inish Cealtra*, is significant in that it is located on the borders of the modern countries of Clare, Galway and Tipperary and on the northern border of the *tricha cet of Ua mBlait* and the overkingdom of Thomond (MacCotter 2008, 192). The inter-territorial location meant that the island was a place of power and a natural gathering place which could accommodate communication between different kin-groups (O'Leary 2016). Islands were seen as ideal locations for monastic settlements during the early medieval period, being seen as places of mediation between this world and the divine (McCarthy et. al. 2017, p.3). The islands location on Lough Derg, within the River Shannon also meant that it could avail of a hugely important trade route (ibid.).

Round towers were a symbol of prestige, with that on *Inis Cealtra* dating to the late 11th/early 12th century. The doorway faces east, towards the doorway of St. Caimin's Church, while the tower itself is located to the southwest of the principal church (McCarthy et. al. 2017, p.14). One of the primary functions of the tower was bell ringing, the tower would have dominated the landscape, as it does today.

Inis Cealtra was a place of pilgrimage for many early medieval people, with the array of monuments and cross inscribed stones and high crosses offering an array of religious symbolism for the pilgrim. The island itself and its monumental features were the sacred space. The monumentality of the built environment would have been imposing in the early medieval period, work would have formed part of the daily life of all living on the island, the stone structures which we see today date from the 10th/11th centuries.

Excavations carried out at the island have shown that there was intensive and successive occupation on the outskirts of the main ritual focus between St. Caimin's church and the round tower throughout the early medieval period (ibid. p.6). By the 11th century industrial activity including iron-working,

bronze-working and bone-working was taking place in and around the enclosure surrounding St. Bridid's (ibid). Habitation on the island was in decline by the 14th century (McCarthy et. al. 2017, p.20). Pilgrimage continued during the post-medieval period, with pilgrims usually walking around a monument, such as a church or well, in a clockwise direction for a specific number of times while reciting prayers (McCarthy et. al. 2017, p.22).

Medieval Period (AD 1169–1600)

The medieval period began with the arrival of the Anglo-Normans in Ireland in AD 1169 to support Diarmait MacMurchadha, deposed King of Leinster, to regain his kingdom. Two years later Richard de Clare (Strongbow) inherited the Kingdom of Leinster through marriage and by the end of the 12th century the Normans had succeeded in conquering much of the country (Stout and Stout 1997).

Tower houses were the medieval fortified residences of the wealthy landowning class and were constructed by both the Anglo-Normans and Gaelic-Irish during the period c.1400-1650. There are believed to be well over 2,000 tower houses extant in the Irish countryside and some estimate that there were as many as 8,000 built during the late medieval period. Excavations of various towers show that the typical house was comprised of a central keep, or large tower, that was defended by sets of walls. These towers generally span four-stories and were rectangular in shape. The internal layout of the towers was usually comprised of a cellar, with the main hall or living room above and one or two stories of living quarters above that. There was a dramatic reduction in scale of these towers when compared to the castles built by the Normans during the 12th, 13th and 14th centuries, which were mainly structures of prestige meant to impress more than defend. These castles were large enough to house lords and their families, as well as the small armies they hired to defend them.

The late 14th century saw the recovery of much of the territory taken by the Normans. This allowed Irish leaders to concentrate on the construction of their own houses. These leaders were intent on building structures that, while different from the Norman castles, still communicated the same amount of prestige. The solution was the tower-house, which, although considerably smaller in scale, still indicated the same status, but at the same time placed a greater emphasis on defence. These castles were not isolated in the landscape but were economic and social centres in the medieval rural community. According to The Civil Survey of the 1650s, cottages, mills, dovecotes, orchards and gardens were associated with many tower houses.

An unclassified castle (AH 3) referred to as a tower house, is located c. 1.9km north of the proposed wind farm in the townland of Caherhurley. Very little of the structure survives, with a short section of masonry wall c. 2m high on top of a small outcrop of limestone. The castle was built by the McNamara family and in 1570 John McNamara died in the possession of four stone castles, including Caherhurly. The tower house remained in the possession of the McNamara family until it was sold to James Bourke of Limerick in 1622. Although no other archaeological monuments dating to the medieval period have been identified within the receiving environment, it is likely that the lower lying areas were settled and farmed, as they had been during the early medieval period.

Post-Medieval Period (AD 1600–1900)

After the introduction of the Penal Laws (in effect from 1695-1829), there were extensive restrictions on Irish Catholics. It was during this time that the tradition of Mass Rocks emerged, although it has been argued that the origin of Mass Rocks may date from the Dissolution of the Monasteries in 1540

(Nugent, 2013). A Mass Rock (AH 25) is recorded c. 930m west-northwest of the proposed wind farm in the townland of Ballydonaghan. Mass rocks were places where Mass was celebrated in the open air, using a flat rock as an altar and in secret. The location of such places was generally remote but locally known. In time, a small shelter was erected over some Mass rocks to protect the altar from the elements but many remained exposed.

A children's burial ground (AH 22) is recorded c. 315m southeast of Works Areas 2 in the townland of Ballydonaghan. The practice of burying children and infants in a separate place appears to have occurred in Ireland since at least the late medieval period. In part this reflects the refusal by church authorities to allow the burial of unbaptised children on consecrated ground, but also perhaps the view that unnamed children had not attained full status within the communities they lived in. Occasionally adults who were viewed as outcasts in some way were also buried in such places, such as the mentally disabled, those who died by suicide and strangers to the area. In some instances, these burial grounds continued in use until the early 20th century. In many instances' burials are marked by low unscribed upright slabs. Some studies have shown that the burial of infants was often carried out shortly after death, at night, usually by male members of the family. These deaths were not mourned or waked in the traditional ways. Often those buried in children's burial grounds were interred in wooden coffins, of which the nails are recovered during excavation. Others may have been wrapped in shrouds held by a pin and often quartz pebbles are associated with these burials.

A church (AH 21) of unknown date is recorded in association with the children's burial ground (AH 22). Westropp (1900–02) recorded the presence of some blocks of cut stone traditionally belonging to a church in the graveyard. However, a graveyard survey in 2010 (Large 2011) recorded that all traces of the church and graveyard has since disappeared. A second church and graveyard (AH 34 and 37) are located adjacent to the grid connection route in the townland of Trough, 2.5km north of Ardnacrusha. Large (2011) records that no trace of the church survives at the site, while the graveyard appears to be largely utilised in the 19th and 20th centuries.

Two lime kilns (AH 19 and 20) are located c. 1.8km north-northeast of the proposed wind farm, in the townland of Ballyvannan. The practice of burning limestone for the purpose of applying lime to soil was carried out from the 12th century to the 17th century becoming widespread in the 18th century. However, in this case, the lime kilns are close to a furnace (AH 18) and may be contemporaneous with this feature (early 17th century), as lime was sometimes added to the charge during smelting (SMR file). A large number of other lime kilns have been recorded across the receiving environment following a review of historic mapping, although many are no longer extant.

A holy well (AH 46) is located c.432m south of Works Area 11 and is recorded on the 1920s Ordnance Survey map as 'Tobermochulla'. The veneration of holy well sites is one of the oldest traditions in Irish Christianity and most likely has its origins in pagan ritual activities. These wells can manifest themselves in a variety of forms ranging from natural springs to rain collecting rock depressions. Many holy wells can be found associated with early ecclesiastical sites and well veneration and its antecedent well worship is not confined to Ireland or even to Europe. Plummer (1910) demonstrates that at least some holy wells in Ireland were important venues of pre-Christian ritual activity. However, the veneration of wells is a very widespread and ancient tradition in Ireland. Not all holy wells are quite so old and it is believed that the traditions associated with some wells are relatively recent in origin.

A review of historic mapping has shown that the receiving environment was extensively settled during the 19th century, with a large number of vernacular structures and farmsteads recorded across the landscape. Many of these have been demolished since the early 20th century but associated belowground remains may survive.

Aerial Photography

Examination of aerial photography held by Ordnance Survey of Ireland (1995-2013), Google Earth (2003–2014), and Bing Maps (2018) has failed to reveal any previously unknown features of archaeological potential within the proposed Project or the immediate environs. Large areas of the wind farm site are forested and therefore the ground level was not visible within the coverage.

Previous Archaeological Excavations

A review of the Excavations Bulletin (1970 – 2018) has revealed that no previous archaeological excavations have taken place within the proposed project boundaries. In the wider landscape, four investigations have taken place and all failed to identify any features of archaeological significance (Licence Refs.: 02E1601, 08E0012, 06E0201, 06E0948).

Topographical Files

Information on stray artefact finds from the receiving environment in County Clare has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the receiving environment. A polished stone axe (NMI Ref: IA/L/1978:1) was found in Ardnacrusha at the southern end of the proposed Project.

Archaeological assets within the receiving environment

Table 13.3: Archaeological assets within receiving environment of the proposed project

AH No	RMP No	Description	Townland	Dist. from the Project	Statutory Protection
AH 1	CL044-013	Megalithic tomb - wedge tomb	Drummin (Kilseily Ed)	980m SW of wind farm	Yes
AH 2	CL028-041	Enclosure	Caherhurly	1.5km N of wind farm	Yes
AH 3	CL028-043	Castle - unclassified	Caherhurly	1.9km N of wind farm	Yes
AH 4	CL044-018	Megalithic tomb - wedge tomb	Cloongaheen West	110m W of grid connection	Yes
AH 5	CL028-045	Enclosure	Caherhurly	1.4km N of wind farm	Yes
AH 6	CL044-027	Megalithic tomb - wedge tomb	Killokennedy	1.15km S of wind farm	Yes
AH 7	CL044-019	Enclosure	Cloongaheen West	250m SE of wind farm	Yes
AH 8	CL036-037	Enclosure	Drummin (Killokennedy Ed)	885m E of wind farm	Yes

AH No	RMP No	Description	Townland	Dist. from the Project	Statutory Protection
AH 9	CL028-046	Ringfort - rath	Caherhurlly	1.4km N of wind farm	Yes
AH 10	CL036-038	Megalithic tomb - wedge tomb	Cloongaheen West	640m S of wind farm	Yes
AH 11	CL044-021	Enclosure	Cloongaheen West	340m NE of wind farm	Yes
AH 12	CL036-022	Enclosure	Ballybroghan	1.5km NE of wind farm	Yes
AH 13	CL044-022	Enclosure	Cloongaheen West	186m E of grid connection	Yes
AH 14	CL028-048	Enclosure	Caherhurlly	1.6km NN of wind farm E	Yes
AH 15	CL036-027	Enclosure	Killuran More	1.7km W of wind farm	Yes
AH 16	CL044-024	Enclosure	Cloongaheen West	910m NE of wind farm	Yes
AH 17	CL028-051	Enclosure	Caherhurlly	1.4km NE of wind farm	Yes
AH 18	CL028-073001	Furnace	Ballyvannan	1.8km NE of wind farm	Yes
AH 19	CL028-073002	Kiln - lime	Ballyvannan	1.8km NNE of wind farm	Yes
AH 20	CL028-073003	Kiln - lime	Ballyvannan	1.8km NNE of wind farm	Yes
AH 21	CL036-017001	Church	Ballydonaghan	315m SE of Works Area 2	Yes
AH 22	CL036-017002	Children's burial ground	Ballydonaghan	315m SE of Works Area 2	Yes
AH 23	CL036-040	Enclosure	Ballydonaghan	1.9km NW of wind farm	Yes
AH 24	CL028-039	Enclosure	Caherhurlly	442m E of Works Area 2	Yes
AH 25	CL036-044	Mass-rock	Ballydonaghan	910m N of wind farm	Yes
AH 26	CL036-018	Enclosure	Ballydonaghan	1.3km NW of wind farm	Yes
AH 27	CL044-025	Standing stone	Cloongaheen West	960m E of wind farm	Yes
AH 28	CL036-019	Enclosure	Caherhurlly	900m N of wind farm	Yes

AH No	RMP No	Description	Townland	Dist. from the Project	Statutory Protection
AH 29	CL036-021	Enclosure	Caherhurly	670m N of wind farm	Yes
AH 30	CL044-020	Enclosure	Cloongaheen West	10m S of grid connection	Yes
AH 31	CL044-023	Enclosure	Cloongaheen West	100m S of grid connection	Yes
AH 32	CL044-072	House - 16th/17th century	Ballyquin More	170m E of grid connection	Yes
AH 33	CL053-031	Enclosure	Trough	40m W of grid connection	Yes
AH 34	CL053-032001	Church	Trough	Adjacent to W of grid connection	Yes
AH 35	CL044-026	Enclosure	Cloongaheen East	240m N of grid connection	Yes
AH 36	CL044-058	Enclosure	Ballyquin Beg	190m W of grid connection	Yes
AH 37	CL053-032002	Graveyard	Trough	Adjacent to W of grid connection	Yes
AH 38	CL053-033	Enclosure	Roo West	180m E of grid connection	Yes
AH 39	CL053-003	Enclosure	Cloghera	40m W of grid connection	Yes
AH 40	CL053-051	House - 18th/19th century	Roo West	90m E of grid connection	Yes
AH 41	CL044-060	Enclosure	Kilbane, Killeagy (Goonan)	100m W of grid connection	Yes
AH 42	CL053-004	Enclosure	Aharinaghbeg	35m N of grid connection	Yes
AH 43	CL044-061	Enclosure	Ballyquin More	45m E of grid connection	Yes
AH 44	CL036-016	Enclosure	Ballydonaghan	346m SE of Works Area 1	Yes
AH 45	CL036-015	Enclosure	Drummod	330m NW of Works Area 3	Yes
AH 46	CL036-014	Ritual site – Holy Well	Drummod	432m SW of Works Area 1	Yes
AH 47	CL028-035002	Redundant record	Coolready	230m SW of Works Area 2	Yes

AH No	RMP No	Description	Townland	Dist. from the Project	Statutory Protection
AH 48	CL028-035	Ringfort - rath	Coolready	230m SW of Works Area 2	Yes
AH 49	CL045-031 Nat. Mon. No. 591 Pres. Order. No. 24/1976	Brian Boru's Fort	Ballyvally	6.15km SE of wind farm	Yes
AH 50	CL045-031002 Pres. Order. No. 24/1976	House – Indeterminate date	Ballyvally	6.15km SE of wind farm	Yes
AH 51	CL045-031003 Pres. Order. No. 24/1976	Castle - ringwork	Ballyvally	6.15km SE of wind farm	Yes
AH 52	CL029001 – 009208 Nat. Mon. No. 5	Holy Island including all monuments	Holy Island	9km NE of wind farm	Yes
AH 53	CL045 – 033015 Nat. Mon. No. 279	St. Molua's Church	Shantraud	7.2km SE of wind farm	Yes
AH 54	CL045 - 033003 Nat. Mon. No. 6	St. Flannan's Church	Shantraud	7.5km SE of wind farm	Yes

13.2.1.2 Proposed Project Architecture

There are no Protected Structures or structures recorded on the NIAH within 2km of the proposed wind farm project.

There is one Protected Structures located along the route of the proposed grid connection and two located within 250m, as listed in Table 13.4. There are also two Protected Structures, which are also listed on the NIAH, located within 500m of Works Area 2.

Full details of all built heritage structures are given in Appendix 14.3.

Table 13.4: Built heritage assets within the receiving environment of the Project

BH No	RPS/NIAH No	Description	Townland	Dist. from the Project	Statutory Protection
BH 1	188/20404407	Kilbane Bridge	Kilbane	0m (grid connection)	Yes
BH 2	427	Glenomra House	Ballyquin Beg	207m W of grid connection	Yes
BH 3	102/20405305	Church of the Mother of God	Cloghera	17m S of grid connection	Yes

BH No	RPS/NIAH No	Description	Townland	Dist. from the Project	Statutory Protection
BH 4	103/20402813	Our Lady of the Assumption Church	Coolready	322m NNE of Works Area 2	Yes
BH 5	38/20402814	Fort Edward	Cooready	30m NE of Works Area 2	Yes

Designed Landscapes

Four designed landscapes have been identified within the receiving environment, only one of which is recorded by the NIAH Garden Survey.

Table 13.5: Designed landscapes within the receiving environment of the proposed Project

DL No	NIAH No	Description	Townland	Dist. from the Project	Statutory Protection
DL 1	-	Small demesne landscape of Caherhurley House consisting of four fields with boundary planting along the southern edge on the 1st edition OS map. The boundaries of the demesne remain intact, as does Caherhurley House (CH 92)	Caherhurley	1.6km north of wind farm	No
DL 2	-	Small demesne landscape of Trough Castle (AH 40) consisting of one open field with sporadic planting on the 1st edition OS map and a small cottage (Roo Cottage). By the late 19th century Trough Castle was constructed, a walled garden added and additional planting installed across the demesne. The walled garden survive today but the demesne planting has been removed.	Roo West	Adjacent to the east of grid connection	No
DL 3	CL-58-R-622697	Demesne landscape of Ballyquin House (AH 32), whose main features are unrecognisable but with some peripheral features visible. The boundaries of the demesne are defined however there has been significant development across the landscape.	Ballyquin Beg	0m (grid connection)	No
DL 4	-	Demesne landscape of St. Catherines, visible on the 1st edition OS map. A tree lined avenue leads from the local road along the north eastern edge of the demesne to a building named 'St. Catherine's', A formal garden is depicted to the east and south east of the principal structures, with scattered planting and some small areas of woodland located across the demesne. Lough Meelagh is located at the western side of the demesne, while a ringfort (CL028-034) is depicted at the north western end of the demesne. Some demesne features are still visible today across the main apt of the demesne, to the northwest of the local road which runs though the demesne. These include tree lines along internal field boundaries,	Coolready	0m (Works Area 2)	No

DL No	NIAH No	Description	Townland	Dist. from the Project	Statutory Protection
		however the scattered planting and wooded areas have been removed and the fields are in use as farmland.			

13.2.1.3 Proposed Project Cultural Heritage

Cultural heritage assets can incorporate both archaeological and built heritage remains which are not subject to statutory protection or which have not been previously recorded as heritage assets in any known datasets. A number of sources were reviewed in order to identify cultural heritage assets within the receiving environment. These included the historic Ordnance Survey (OS) mapping, aerial photographic coverage and field inspections.

A characteristic of the post-medieval landscape are the vernacular buildings that represent the homes of farmers and workers. 'Vernacular architecture' is a term used to describe traditional buildings constructed using locally available materials and according to local/regional styles i.e. the homes and workplaces of the ordinary people. This is in contrast to formal architecture, such as the grand estate houses of the gentry, churches and public buildings, which were often designed by architects or engineers. The majority of vernacular buildings are domestic dwellings. Examples of other structures that may fall into this category include shops, outbuildings, mills, limekilns, farmsteads, forges, gates and gate piers. There are multiple examples of vernacular structures, including houses and limekilns, located within the receiving environment of the project and these have been classified as Cultural Heritage (CH) sites and are listed in the Table 13.6.

Table 13.6: Cultural heritage assets within receiving environment of proposed Project

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 01	Copper mine	1st edition OS 1840-42	1.6km NW of wind farm	No
CH 02	Site of vernacular structure	1st edition OS 1840-42	950m N of wind farm	No
CH 03	Site of vernacular structure	1st edition OS 1840-42	1.1km N of wind farm	No
CH 04	Site of vernacular structure	1st edition OS 1840-42	1.1km N of wind farm	No
CH 05	Site of vernacular structure	1st edition OS 1840-42	1.1km N of wind farm	No
CH 06	Site of vernacular structure	1st edition OS 1840-42	0m of wind farm	No
CH 07	Farmstead	1st edition OS 1840-42	760m N of wind farm	No
CH 08	Site of vernacular structure	1st edition OS 1840-42	830m N of wind farm	No
CH 09	Ruins of vernacular structure	1st edition OS 1840-42	1.3km S of wind farm	No
CH 10	Site of vernacular structure	1st edition OS 1840-42	1.65km S of wind farm	No
CH 11	Site of vernacular structure	1st edition OS 1840-42	1km S of wind farm	No
CH 12	Site of vernacular structure	1st edition OS 1840-42	200m W of wind farm	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 13	Vernacular structure	1st edition OS 1840-42	365m NW of wind farm	No
CH 14	Farmstead	1st edition OS 1840-42	900 NE of wind farm	No
CH 15	Site of vernacular structure	1st edition OS 1840-42	Adjacent to SW of grid connection	No
CH 16	Site of vernacular structure	1st edition OS 1840-42	Adjacent to E of grid connection	No
CH 17	Site of vernacular structure	1st edition OS 1840-42	60m NE of grid connection	No
CH 18	Site of vernacular structure	1st edition OS 1840-42	270m NE of wind farm	No
CH 19	Site of vernacular structure	1st edition OS 1840-42	150m NE of grid connection	No
CH 20	Site of vernacular structure	1st edition OS 1840-42	750m NE of wind farm	No
CH 21	Site of vernacular structure	1st edition OS 1840-42	700m NE of wind farm	No
CH 22	Site of vernacular structure	1st edition OS 1840-42	850m NE of wind farm	No
CH 23	Site of vernacular structure	1st edition OS 1840-42	780m NE of wind farm	No
CH 24	Site of vernacular structure	1st edition OS 1840-42	570m NE of wind farm	No
CH 25	Site of vernacular structure	1st edition OS 1840-42	640m NE of wind farm	No
CH 26	Site of vernacular structure	1st edition OS 1840-42	600m NE of wind farm	No
CH 27	Site of vernacular structure	1st edition OS 1840-42	500m NE of wind farm	No
CH 28	Site of vernacular structure	1st edition OS 1840-42	550 NE of wind farm	No
CH 29	Site of vernacular structure	1st edition OS 1840-42	400 NE of wind farm	No
CH 30	Site of vernacular structure	1st edition OS 1840-42	210m NE of wind farm	No
CH 31	Site of vernacular structure	1st edition OS 1840-42	715m NE of wind farm	No
CH 32	Site of vernacular structure	1st edition OS 1840-42	770m NE of wind farm	No
CH 33	Site of vernacular structure	1st edition OS 1840-42	1.1km S of wind farm	No
CH 34	Site of vernacular structure	1st edition OS 1840-42	66m NE of grid connection	No
CH 35	Site of vernacular structure	1st edition OS 1840-42	95m NE of grid connection	No
CH 36	Site of vernacular structure	1st edition OS 1840-42	Adjacent to the W of grid connection	No
CH 37	Vernacular structure	1st edition OS 1840-42	44m E of grid connection	No
CH 38	Site of vernacular structure	1st edition OS 1840-42	20m W of grid connection	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 39	Site of vernacular structure	1st edition OS 1840-42	110m E of grid connection	No
CH 40	Vernacular structure	1st edition OS 1840-42	175m W of grid connection	No
CH 41	Site of vernacular structure	1st edition OS 1840-42	30m SW of grid connection	No
CH 42	Site of vernacular structure	1st edition OS 1840-42	270m SW of wind farm	No
CH 43	Site of farmstead	1st edition OS 1840-42	450m W of wind farm	No
CH 44	Vernacular structure	1st edition OS 1840-42	750m SW of wind farm	No
CH 45	Site of vernacular structure	1st edition OS 1840-42	790m W of wind farm	No
CH 46	Site of vernacular structure in ruins	1st edition OS 1840-42	850m W of wind farm	No
CH 47	Site of vernacular structure	1st edition OS 1840-42	900m W of wind farm	No
CH 48	Site of vernacular structure	1st edition OS 1840-42	970m W of wind farm	No
CH 49	Grouse Lodge	1st edition OS 1840-42	1.2km W of wind farm	No
CH 50	Farmstead	1st edition OS 1840-42	1.1km NW of wind farm	No
CH 51	Site of 5 vernacular structures	1st edition OS 1840-42	830m SW of wind farm	No
CH 52	Farmstead	1st edition OS 1840-42	900m SW of wind farm	No
CH 53	Site of vernacular structure	1st edition OS 1840-42	1.3km NW of wind farm	No
CH 54	Site of farmstead	1st edition OS 1840-42	1.1km NW of wind farm	No
CH 55	Site of vernacular structure	1st edition OS 1840-42	1.3km NW of wind farm	No
CH 56	Site of vernacular structure	1st edition OS 1840-42	1.3km NW of wind farm	No
CH 57	Site of vernacular structure	1st edition OS 1840-42	1.55km NW of wind farm	No
CH 58	Vernacular structure	1st edition OS 1840-42	1.6km NW of wind farm	No
CH 59	Vernacular structure	1st edition OS 1840-42	1.2km NW of wind farm	No
CH 60	Site of vernacular structure	1st edition OS 1840-42	1.1km NW of wind farm	No
CH 61	Site of vernacular structure	1st edition OS 1840-42	1.1km NW of wind farm	No
CH 62	Vernacular structure	1st edition OS 1840-42	1.2km NW of wind farm	No
CH 63	Site of Farmstead	1st edition OS 1840-42	850m W of wind farm	No
CH 64	Site of vernacular structure	1st edition OS 1840-42	1.4km NW of wind farm	No
CH 65	Site of Farmstead	1st edition OS 1840-42	1.8km NW of wind farm	No
CH 66	Site of vernacular structure	1st edition OS 1840-42	1.8km nW of wind farm	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 67	Vernacular structure	1st edition OS 1840-42	2km NW of wind farm	No
CH 68	Site of vernacular structure	1st edition OS 1840-42	2km NW of wind farm	No
CH 69	Vernacular structure	1st edition OS 1840-42	1.6km NW of wind farm	No
CH 70	Site of vernacular structure	1st edition OS 1840-42	1.7km NW of wind farm	No
CH 71	Site of vernacular structure	1st edition OS 1840-42	1.7km NW of wind farm	No
CH 72	Site of vernacular structure	1st edition OS 1840-42	1.7km NW of wind farm	No
CH 73	Site of vernacular structure	1st edition OS 1840-42	1.8km NW of wind farm	No
CH 74	Site of vernacular structure	1st edition OS 1840-42	1.8km NW of wind farm	No
CH 75	Site of vernacular structure	1st edition OS 1840-42	1.9km NW of wind farm	No
CH 76	Site of vernacular structure	1st edition OS 1840-42	1.9km NW of wind farm	No
CH 77	Site of vernacular structure	1st edition OS 1840-42	1.8km NW of wind farm	No
CH 78	Site of vernacular structure	1st edition OS 1840-42	1.7km WNW of wind farm	No
CH 79	Site of vernacular structure	1st edition OS 1840-42	1.8km NE of wind farm	No
CH 80	Site of vernacular structure	1st edition OS 1840-42	1.3km NW of wind farm	No
CH 81	Site of vernacular structure	1st edition OS 1840-42	1.1km NW of wind farm	No
CH 82	Site of vernacular structure	1st edition OS 1840-42	875m NE of wind farm	No
CH 83	Vernacular structure	1st edition OS 1840-42	1.1km NW of wind farm	No
CH 84	Site of vernacular structure	1st edition OS 1840-42	10m W of wind farm	No
CH 85	Site of vernacular structure	1st edition OS 1840-42	0m of wind farm	No
CH 86	Farmstead	1st edition OS 1840-42	1.5km NNW of wind farm	No
CH 87	Farmstead	1st edition OS 1840-42	1.6km NNW of wind farm	No
CH 88	Site of vernacular structure	1st edition OS 1840-42	1.6km NNW of wind farm	No
CH 89	Site of vernacular structure	1st edition OS 1840-42	1.6km NNW of wind farm	No
CH 90	Site of vernacular structure	1st edition OS 1840-42	1.5km NNW of wind farm	No
CH 91	Site of vernacular structure	1st edition OS 1840-42	1.65km NNW of wind farm	No
CH 92	Caherhurley House	1st edition OS 1840-42	1.8km NNW of wind farm	No
CH 93	Site of corn mill	1st edition OS 1840-42	1.87km N of wind farm	No
CH 94	Site of corn mill	1st edition OS 1840-42	1.7km N of wind farm	No
CH 95	Site of mill race	1st edition OS 1840-42	1.7km N of wind farm	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 96	Site of 11 vernacular structures	1st edition OS 1840-42	1.5km N of wind farm	No
CH 97	Site of 4 vernacular structures	1st edition OS 1840-42	1.5km N of wind farm	No
CH 98	Site of vernacular structure	1st edition OS 1840-42	1.6km N of wind farm	No
CH 99	Site of vernacular structure	1st edition OS 1840-42	1.4km N of wind farm	No
CH 100	Site of corn kiln	1st edition OS 1840-42	1.3km N of wind farm	No
CH 101	Site of corn kiln	1st edition OS 1840-42	1.3km N of wind farm	No
CH 102	Site of tuck mill	1st edition OS 1840-42	1.3km N of wind farm	No
CH 103	Site of mill race	1st edition OS 1840-42	1.2km N of wind farm	No
CH 104	Site of mill pond	1st edition OS 1840-42	1.2km N of wind farm	No
CH 105	Site of vernacular structure	1st edition OS 1840-42	1.2km N of wind farm	No
CH 106	Site of vernacular structure	1st edition OS 1840-42	1km N of wind farm	No
CH 107	Site of vernacular structure	1st edition OS 1840-42	1.1km NNE of wind farm	No
CH 108	Site of vernacular structure	1st edition OS 1840-42	1.1km NNE of wind farm	No
CH 109	Farmstead	1st edition OS 1840-42	1.4km NE of wind farm	No
CH 110	Farmstead	1st edition OS 1840-42	1km NNE of wind farm	No
CH 111	Site of vernacular structure	1st edition OS 1840-42	1km NE of wind farm	No
CH 112	Site of vernacular structure	1st edition OS 1840-42	1.2km NE of wind farm	No
CH 113	Site of vernacular structure	1st edition OS 1840-42	1km NE of wind farm	No
CH 114	Vernacular structure	1st edition OS 1840-42	1.1km NE of wind farm	No
CH 115	Site of vernacular structure	1st edition OS 1840-42	1.1km NE of wind farm	No
CH 116	Site of vernacular structure	1st edition OS 1840-42	1.1km NE of wind farm	No
CH 117	Farmstead	1st edition OS 1840-42	770m NE of wind farm	No
CH 118	Site of vernacular structure	1st edition OS 1840-42	950m NE of wind farm	No
CH 119	Vernacular structure	1st edition OS 1840-42	460m N of wind farm	No
CH 120	Site of vernacular structure	1st edition OS 1840-42	360m N of wind farm	No
CH 121	Vernacular structure	1st edition OS 1840-42	350m N of wind farm	No
CH 122	Site of vernacular structure	1st edition OS 1840-42	350m N of wind farm	No
CH 123	Site of vernacular structure	1st edition OS 1840-42	0m of wind farm	No
CH 124	Site of vernacular structure	1st edition OS 1840-42	0m of wind farm	No
CH 125	Vernacular structure	1st edition OS 1840-42	30m S of wind farm	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 126	Site of vernacular structure	1st edition OS 1840-42	180m E of wind farm	No
CH 127	Site of vernacular structure	1st edition OS 1840-42	260m E of wind farm	No
CH 128	Site of vernacular structure	1st edition OS 1840-42	300m NE of wind farm	No
CH 129	Site of vernacular structure	1st edition OS 1840-42	600m NE of wind farm	No
CH 130	Site of vernacular structure	1st edition OS 1840-42	300m E of wind farm	No
CH 131	Farmstead	1st edition OS 1840-42	850m N of wind farm	No
CH 132	Site of vernacular structure	1st edition OS 1840-42	500m NE of wind farm	No
CH 133	Site of vernacular structure	1st edition OS 1840-42	1km N of wind farm	No
CH 134	Caherhurley village ruins	1st edition OS 1840-42	1.1km N of wind farm	No
CH 135	Site of vernacular structure	1st edition OS 1840-42	1.6km NNE of wind farm	No
CH 136	Site of vernacular structure	1st edition OS 1840-42	1.6km NNE of wind farm	No
CH 137	Site of vernacular structure	1st edition OS 1840-42	1.7km NNE of wind farm	No
CH 138	Site of vernacular structure	1st edition OS 1840-42	1.6km NNE of wind farm	No
Ch 139	Farmstead	1st edition OS 1840-42	1.6km NNE of wind farm	No
CH 140	Site of vernacular structure	1st edition OS 1840-42	1.6km NNE of wind farm	No
CH 141	Site of vernacular structure	1st edition OS 1840-42	1.4km NE of wind farm	No
CH 142	Vernacular structure	1st edition OS 1840-42	2km N of wind farm	No
CH 143	Vernacular structure	1st edition OS 1840-42	2km N of wind farm	No
CH 144	Site of vernacular structure	1st edition OS 1840-42	1.8km NNE of wind farm	No
CH 145	Site of vernacular structure	1st edition OS 1840-42	1.3km NE of wind farm	No
CH 146	Site of farmstead	1st edition OS 1840-42	1.3km NE of wind farm	No
CH 147	Site of vernacular structure	1st edition OS 1840-42	1.2km NE of wind farm	No
CH 148	Vernacular structure	1st edition OS 1840-42	1.5km NE of wind farm	No
CH 149	Site of vernacular structure	1st edition OS 1840-42	1.3km E of wind farm	No
CH 150	Site of vernacular structure	1st edition OS 1840-42	1.1km E of wind farm	No
CH 151	Site of vernacular structure	1st edition OS 1840-42	1.4km E of wind farm	No
CH 152	Site of vernacular structure	1st edition OS 1840-42	1.3km E of wind farm	No
CH 153	Site of vernacular structure	1st edition OS 1840-42	1.9km E of wind farm	No
CH 154	Site of vernacular structure	1st edition OS 1840-42	550m NW of wind farm	No
CH 155	Site of vernacular structure	1st edition OS 1840-42	680m NW of wind farm	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 156	Site of vernacular structure	1st edition OS 1840-42	670m NW of wind farm	No
CH 157	Site of vernacular structure	1st edition OS 1840-42	0m of wind farm	No
CH 158	Site of vernacular structure	1st edition OS 1840-42	1.2km NW of wind farm	No
CH 159	Site of vernacular structure	1st edition OS 1840-42	0m of wind farm	No
CH 160	Site of lime kiln	25' to one mile OS, 1913	1.4km NW of wind farm	No
CH 161	Vernacular structure	1st edition OS 1840-42	1.6km W of wind farm	No
CH 162	Site of vernacular structure	1st edition OS 1840-42	1.4km NW of wind farm	No
CH 163	Site of lime kiln	25' to one mile OS, 1913	1.9km NW of wind farm	No
CH 164	Vernacular structure	1st edition OS 1840-42	170m W of grid connection	No
CH 165	Site of lime kiln	25' to one mile OS, 1913	585m NW of wind farm	No
CH 166	Site of lime kiln	25' to one mile OS, 1913	1km NW of wind farm	No
CH 167	Site of lime kiln	25' to one mile OS, 1913	900m W of wind farm	No
CH 168	Site of lime kiln	25' to one mile OS, 1913	930m W of wind farm	No
CH 169	Site of lime kiln	25' to one mile OS, 1913	600m W of wind farm	No
CH 170	Site of lime kiln	25' to one mile OS, 1913	550m W of wind farm	No
CH 171	Site of vernacular structure	25' to one mile OS, 1913	0m of wind farm	No
CH 172	Site of vernacular structure	25' to one mile OS, 1913	0m of wind farm	No
CH 173	Vernacular structure	1st edition OS 1840-42	1.9km E of wind farm	No
CH 174	Site of lime kiln	25' to one mile OS, 1913	1.6km NE of wind farm	No
CH 175	Site of lime kiln	25' to one mile OS, 1913	1.85km NE of wind farm	No
CH 176	Site of lime kiln	25' to one mile OS, 1913	1.8km NE of wind farm	No
CH 177	Site of lime kiln	25' to one mile OS, 1913	1.5km NE of wind farm	No
CH 178	Site of lime kiln	25' to one mile OS, 1913	1.9km NNE of wind farm	No
CH 179	Site of lime kiln	25' to one mile OS, 1913	1.9km N of wind farm	No
CH 180	Site of lime kiln	25' to one mile OS, 1913	1.9km N of wind farm	No
CH 181	Site of lime kiln	1st edition OS 1840-42	1.5km N of wind farm	No
CH 182	Site of vernacular structure	1st edition OS 1840-42	1.3km N of wind farm	No
CH 183	Site of lime kiln	1st edition OS 1840-42	1.4km NE of wind farm	No
CH 184	Site of lime kiln	25' to one mile OS, 1913	1.6km NE of wind farm	No
CH 185	Site of lime kiln	25' to one mile OS, 1913	1.5km NE of wind farm	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 186	Site of lime kiln	25' to one mile OS, 1913	1.7km NE of wind farm	No
CH 187	Site of lime kiln	25' to one mile OS, 1913	1.9km NNE of wind farm	No
CH 188	Site of lime kiln	25' to one mile OS, 1913	1.75km N of wind farm	No
CH 189	Site of lime kiln	25' to one mile OS, 1913	1.4km N of wind farm	No
CH 190	Site of lime kiln	25' to one mile OS, 1913	1.35km N of wind farm	No
CH 191	Site of lime kiln	25' to one mile OS, 1913	1.3km N of wind farm	No
CH 192	Site of lime kiln	25' to one mile OS, 1913	1.2km N of wind farm	No
CH 193	Site of lime kiln	25' to one mile OS, 1913	650m N of wind farm	No
CH 194	Site of lime kiln	25' to one mile OS, 1913	650m N of wind farm	No
CH 195	Site of lime kiln	25' to one mile OS, 1913	650m N of wind farm	No
CH 196	Site of lime kiln	25' to one mile OS, 1913	525m N of wind farm	No
CH 197	Site of lime kiln	25' to one mile OS, 1913	525m N of wind farm	No
CH 198	Site of lime kiln	25' to one mile OS, 1913	850m N of wind farm	No
CH 199	Site of lime kiln	25' to one mile OS, 1913	860m N of wind farm	No
CH 200	Site of lime kiln	25' to one mile OS, 1913	780m NE of wind farm	No
CH 201	Site of lime kiln	25' to one mile OS, 1913	1.1km NNE of wind farm	No
CH 202	Site of lime kiln	25' to one mile OS, 1913	930m NE of wind farm	No
CH 203	Quarry	25' to one mile OS, 1913	930m NE of wind farm	No
CH 204	Site of lime kiln	25' to one mile OS, 1913	950m NE of wind farm	No
CH 205	Site of vernacular structure	1st edition OS 1840-42	1.2km NE of wind farm	No
CH 206	Site of lime kiln	25' to one mile OS, 1913	300m E of wind farm	No
CH 207	Site of lime kiln	25' to one mile OS, 1913	370m N of wind farm	No
CH 208	Site of lime kiln	25' to one mile OS, 1913	350m N of wind farm	No
CH 209	Site of lime kiln	25' to one mile OS, 1913	0m of wind farm	No
CH 210	Vernacular Structure	25' to one mile OS, 1913	0m of wind farm	No
CH 211	Site of lime kiln	25' to one mile OS, 1913	0m of wind farm	No
CH 212	Site of vernacular structure	25' to one mile OS, 1913	0m of wind farm	No
CH 213	Site of lime kiln	25' to one mile OS, 1913	0m of wind farm	No
CH 214	Site of vernacular structure	1st edition OS 1840-42	Adjacent to the west of grid connection	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 215	Vernacular structure in ruins	1st edition OS 1840-42	1.6km N of grid connection	No
CH 216	Vernacular Structure	1st edition OS 1840-42	66m E of grid connection	No
CH 217	Vernacular Structure	1st edition OS 1840-42	225m W of grid connection	No
CH 218	Group of vernacular structures	1st edition OS 1840-42	Adjacent to N of grid connection	No
CH 219	Group of vernacular structures	1st edition OS 1840-42	Adjacent to N of grid connection	No
CH 220	Group of vernacular structures	1st edition OS 1840-42	200m N of grid connection	No
CH 221	Group of vernacular structures	1st edition OS 1840-42	35m N of grid connection	No
CH 222	Vernacular Structure	1st edition OS 1840-42	210m NE of grid connection	No
CH 223	Kilbane Village	1st edition OS 1840-42	Adjacent to N and S of grid connection	No
CH 224	Vernacular structure	1st edition OS 1840-42	Adjacent to W of grid connection	No
CH 225	Site of vernacular structure	1st edition OS 1840-42	30m E of grid connection	No
CH 226	Site of vernacular structure	1st edition OS 1840-42	25m E of grid connection	No
CH 227	Site of vernacular structure	1st edition OS 1840-42	Adjacent to E of grid connection	No
CH 228	Farmstead	1st edition OS 1840-42	130m W of grid connection	No
CH 229	Site of farmstead	1st edition OS 1840-42	25m E of grid connection	No
CH 230	Site of vernacular structure	1st edition OS 1840-42	Adjacent to W of grid connection	No
CH 231	Site of vernacular structure	1st edition OS 1840-42	30m E of grid connection	No
CH 232	Vernacular structure	1st edition OS 1840-42	15m W of grid connection	No
CH 233	Site of vernacular structure	1st edition OS 1840-42	Adjacent to E of grid connection	No
CH 234	Site of group of vernacular structures	1st edition OS 1840-42	Adjacent to E of grid connection	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 235	Site of vernacular structure	1st edition OS 1840-42	100m E of grid connection	No
CH 236	Site of vernacular structure	1st edition OS 1840-42	125m W of grid connection	No
CH 237	Site of gate lodge	1st edition OS 1840-42	20m E of grid connection	No
CH 238	Structure associated with Ballyquin House	1st edition OS 1840-42	180m E of grid connection	No
CH 239	Site of group of vernacular structures	1st edition OS 1840-42	225m E of grid connection	No
CH 240	Site of vernacular structure	1st edition OS 1840-42	Adjacent to W of grid connection	No
CH 241	Group of vernacular structures	1st edition OS 1840-42	Adjacent to E of grid connection	No
CH 242	Vernacular structure	1st edition OS 1840-42	Adjacent to E of grid connection	No
CH 243	Site of Ballyvourher	1st edition OS 1840-42	150m E of grid connection	No
CH 244	Vernacular structure	1st edition OS 1840-42	Adjacent to E of grid connection	No
CH 245	Site of vernacular structure	1st edition OS 1840-42	18m W of grid connection	No
CH 246	Group of vernacular structures	1st edition OS 1840-42	90m S of grid connection	No
CH 247	Site of group of vernacular structures	1st edition OS 1840-42	Adjacent to S of grid connection	No
CH 248	Site of vernacular structure	1st edition OS 1840-42	210m N of grid connection	No
CH 249	Ruins of vernacular structure	1st edition OS 1840-42	130m W of wind farm	No
CH 250	Ruins of vernacular structure	1st edition OS 1840-42	17m W of grid connection	No
CH 251	Site of vernacular structure	1st edition OS 1840-42	43m E of grid connection	No
CH 252	Ruins of vernacular structure	1st edition OS 1840-42	20m E of grid connection	No
CH 253	Site of vernacular structure	1st edition OS 1840-42	20m E of grid connection	No
CH 254	Site of group of vernacular structures including a smithy	1st edition OS 1840-42	Adjacent to W of grid connection	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 255	Site of vernacular structure	1st edition OS 1840-42	80m E of grid connection	No
CH 256	Ruins of Smithy	25' to one mile OS, 1913	70m S of grid connection	No
CH 257	Site of lime kiln	25' to one mile OS, 1913	30m E of grid connection	No
CH 258	Vernacular structure	1st edition OS 1840-42	218m SW Works Area 2	No
CH 259	Site of lime kiln	1st edition OS 1840-42	175m NE Works Area 1	No
CH 260	Site of vernacular structure	1st edition OS 1840-42	175m NE Works Area 1	No
CH 261	Site of vernacular structure	1st edition OS 1840-42	15m S Works Area 1	No
CH 262	Site of lime kiln	1st edition OS 1840-42	305m NNW Works Area 1	No
CH 263	Site of vernacular structure	1st edition OS 1840-42	246m NNW Works Area 1	No
CH 264	Vernacular structure	1st edition OS 1840-42	308m NNW Works Area 1	No
CH 265	Site of vernacular structure	1st edition OS 1840-42	330m NW Works Area 1	No
CH 266	Site of vernacular structure	1st edition OS 1840-42	356m NW Works Area 1	No
CH 267	Vernacular structure	1st edition OS 1840-42	366m W Works Area 1	No
CH 268	Site of vernacular structure	1st edition OS 1840-42	175m SSW Works Area 1	No
CH 269	Disused gravel pit	25' to one mile OS, 1913	400 NW Works Area 2	No
CH 270	Site of vernacular structure	1st edition OS 1840-42	244m SSW Works Area 1	No
CH 271	Site of vernacular structure	1st edition OS 1840-42	126m SW Works Area 1	No
CH 272	Site of smithy	1st edition OS 1840-42	53m S Works Area 1	No
CH 273	Site of lime kiln	25' to one mile OS, 1913	327m SSW Works Area 2	No
CH 274	Site of vernacular structure	1st edition OS 1840-42	326m NNW Works Area 3	No
CH 275	School	25' to one mile OS, 1913	345m NNE Works Area 2	No

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 276	Site of vernacular structure	1st edition OS 1840-42	453m NNE Works Area 3	No
CH 277	Site of vernacular structure	1st edition OS 1840-42	80m S Works Area 3	No
CH 278	Site of vernacular structure	1st edition OS 1840-42	210m W Works Area 3	No
CH 279	Site of vernacular structure	25' to one mile OS, 1913	190m N Works Area 3	No
CH 280	Site of lime kiln	25' to one mile OS, 1913	244m NE Works Area 3	No
CH 281	Site of vernacular structure	25' to one mile OS, 1913	450, S Works Area 3	No

Cartographic Sources

Down Survey Maps of the Barony of Tullogh, c. 1655

This map was destroyed in 1711 and there are no known copies. Therefore, it is unknown to what extent the proposed Project was shown on this mapping.

First Edition OS Map of County Clare, 1840-42, scale 1:10560

This is the first accurate mapping of the proposed development site in County Clare, with the entire wind farm area is shown as rough pasture. Within the wind farm boundary the three structures are located in the northern section where a small, local road transverses the development site, in northeast-southwest direction (CH 123 – 125). Three other structures are located close to the north west boundary of the wind farm (CH 85, 157 and 159), with one other structure at the southern boundary (CH 06).

A number of lime kilns are depicted across the receiving environment, these are not recorded in the RMP/SMR and are likely not extant. There are also a large number of post-medieval vernacular structures shown on the map of 1842 across the receiving environment. These are concentrated to the southwest, west and north of the wind farm, on lower lying land which, as seen historically, was more favoured for settlement and farming. Vernacular structures and other features identified on this and subsequent historic maps have been mapped (see Appendix 13.1, Figures 13.5–13.6) and are listed in Table 13.6.

Many of the enclosures recorded on the RMP are depicted as sub-circular features and wedge tomb (AH 6) is labelled as 'Cromlech'.

OS Map of County Clare, 1893, scale 1:2500

There had been little significant change to the area by the time of the 1893 OS map, with the majority of the vernacular structures across the receiving environment still seen. Forty-two lime kilns, both in use and disused by the time of the survey, were noted on this map edition within the receiving environment, with three (CH 209, 211 and 213) located within the wind farm boundary. Additional vernacular structures have also been constructed within the wind farm boundary by this time (CH 171, 172, 210 and 212).

Analysis of place-name and townland evidence within the receiving environment

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

Gaelic land ownership required a clear definition of the territories held by each sept and a need for strong, permanent fences around their territories. It is possible that boundaries following ridge tops, streams or bog are more likely to be older in date than those composed of straight lines (ibid. 179). The vast majority of townlands are referred to in the 17th century, when land documentation records begin. Many of the townlands are mapped within the Down Survey of the 1650s, so called as all measurements were carefully 'laid down' on paper at a scale of forty perches to one inch. Therefore, most are in the context of pre-17th century landscape organisation (McErlean 1983, 315).

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

Townland and topographic names are an invaluable source of information on topography, landownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long-forgotten site and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors recorded townland names in the 1830s and 1840s, when the entire country was mapped for the first time. Some of the townland names in the receiving environment are of Irish origin and through time have been anglicised. The main references used for the place name analysis is *Irish Local Names Explained* by P.W Joyce (1870) and the *Place Names*

Database of Ireland. A description and possible explanation of each townland name in the environs of the proposed road development are provided in the tables below.

Table 13.7: Townlands within Carrownagowan receiving environment

Townland	Origin	Derivation	Meaning
Aharinaghmore	Irish	<i>Achadh Roighneach Mór</i>	Great field
Ballybroghan	Irish	<i>Baile Uí Bhruacháin</i>	Homestead of Bruacháin
Ballydonaghan	Irish	<i>Baile Uí Dhonnacháin</i>	Homestead of Donnacháin
Ballymacdonnell	Irish	<i>Baile Mhic Dhónaill</i>	Homestead of Dónaill
Ballymalone	Irish	<i>Baile Uí Mhaoil Éóin</i>	Homestead of Mhaoil Éóin
Ballynabrone	Irish	<i>Baile na Brón</i>	Homestead of the champion?
Ballyquin Beg	Irish	<i>Baile Uí Chuinn Mór</i>	Homestead of Uí Chuinn
Ballyquin More	Irish	<i>Baile Uí Chuinn Beag</i>	Homestead of Uí Chuinn
Ballyvannan	Irish	<i>Baile Uí Bhanáin</i>	Homestead of Banáin
Barbane	Irish	<i>An Barr Bán</i>	The white/grassy top
Caherhurly	Irish	<i>Cathair Urthaile</i>	The stone fort of Urthaile
Cappalea	Irish	<i>An Cheapach Liath</i>	The land of the grey horse or the grey tillage plot
Carrowbaun	Irish	<i>An Cheathrú Bhán</i>	The grassy/white quarterland
Carrownagowan	Irish	<i>Ceathrú na nGaibhne</i>	The smith's quarterland
Carrownakilly	Irish	<i>Ceathrú na Coille</i>	The quarterland of the woods
Classagh	Irish	<i>An Clasach</i>	The harp?
Cloghera	Irish	<i>Clochdhoire</i>	Stoney place
Cloongaheen East	Irish	<i>Cluain Gaoithín</i>	Gaoithín's meadow
Cloongaheen West	Irish	<i>Cluain Gaoithín</i>	Gaoithín's meadow
Coolready	Irish	<i>Cúil Uí Riada</i>	Riada's corner
Coolreagh More	Irish	<i>An Chúil Riabhach Mhór</i>	The big grey nook/corner
Coumbrack	Irish	<i>An Com Breac</i>	The speckled hollow
Coumnagun	Irish	<i>Com na gCon</i>	Con's hollow
Drimmeen	Irish	<i>An Droimín</i>	Little ridge
Drummin	Irish	<i>An Dromainn</i>	The ridge
Drummod	Irish	<i>Dromad</i>	High/long ridge
Fahy More South	Irish	<i>An Fhaiche Mhór Theas</i>	The great green
Gortatrassa	Irish	<i>Gort an tSleasa</i>	The side fields
Inchalughoge	Irish	<i>Inse Luchóige</i>	Luchoige river meadow
Kilbane	Irish	<i>An Choill Bhán</i>	The white/grassy wood
Killeagy	Irish	<i>Coill Eagáí</i>	Eagáí wood
Killokennedy	Irish	<i>Cill Ó gCinnéide</i>	Kennedy's church
Killuran More	Irish	<i>Cill Úráin Mór</i>	Big church of Úráin
Knockdonagh	Irish	<i>Cnoc Dhonncha</i>	Donncha's Hill
Lackabranner	Irish	<i>Leaca an Bhranair</i>	The fallow hill
Lakyle	Irish	<i>An Leathchoill</i>	The half wood
Leitrim	Irish	<i>Liatroim</i>	-
O' Shea's Acres	English	-	-
Roo West	Irish	<i>Ruaigh Thiar</i>	Redden west
Shannaknock	Irish	<i>An Seachnoc</i>	The old hill
Springmount	English	-	-
Tooreen	Irish	<i>An Tuairín</i>	Little paddock
Trough	Irish	<i>An Triúch</i>	Trough
Violethill	English	-	-

Seven townland boundaries are located within the wind farm boundary. Owenogarney stream forms the townland boundary between Ballydonaghan and Inchalughoge, Chaerhurley and Ballydonaghan, Inchalughoge and Killokennedy, and between Carrownagowan and Killokennedy and Kilbane. A small unnamed stream forms the boundary between Carrownagowan and Caherhurley and between Coumnagun and Caherhurley.

The townland boundary between Drummod and Ballydonaghan crosses Works Area 3 and consists of a hedgerow with mature trees along its length which is cut by a small local road which also forms part of Works Area 3. Works Areas 1 and 2 are also located in the townland of Coolready.

Site Inspection

The site inspection sought to assess the site, its previous and current land use, the topography and any additional information relevant to the report, all plates are reproduced in Appendix 13.4.

Nineteen proposed wind turbines are located across a forested area covering a total area of 855 hectares (ha). The site is an active Coillte forest, with timber harvesting and replanting in progress in some areas. The site is traversed by numerous forest roads and tracks, with the landscape undulating from 130m above Ordnance Datum (aOD) at the northern end, to a maximum height of 360m aOD at the southern end of the site. The southwest corner of the site (Turbine 1) is located at 250m aOD.

No known recorded monuments or built heritage assets are located within the wind farm site boundary. A review of historic maps has identified nine Cultural Heritage features within the site boundary, all of which represent vernacular structures. Seven of these were identified on the 1840 OS map, while the remaining two first appear on the 1890 map. No evidence for these structures was noted during the site inspection and it is likely that they were removed during the original planting of the forest. There is potential for sub-surface remains associated with these structures to survive.

Turbines 14–16 are located in heavily wooded areas and access to the footprint of the turbine was not possible due to the ground conditions (Plates 13.1-2). Turbine 13 is located in an area of scrub (Plate 13.3) and no archaeological features were noted. The landscape to the southeast of T13 rises to a peak of 530m aOD, blocking views towards Killaloe and Ballina.

The remainder of the Turbines are located within areas which are currently forested, or recently deforested, with no access roads and the presence of deep water filled ditches making inspection of the Turbine's base location extremely difficult (Plates 13.4-6).

The level of disturbance caused by both the planting of forestry and the deforestation process is substantial. The majority of the site has been forested and deforested in the past 30 years, therefore damage to any unknown archaeological remains is likely to be extensive.

Due to the level of existing forestry across the site, views are limited in many areas. Where the landscape slopes from higher areas views can be gained across the wider landscape, such as from the forest road between T16 and T17, looking towards the north (Plate 13.7). Wide ranging views from T8 towards the north and west are also possible, however these areas have been recently planted and views from these locations will be limited as the trees mature (Plate 13.8).

The presence of a ridge of high ground to the south of the site, which runs west to east with a number of peaks from 330m aOD at the west to 530m aOD at the east, severely limits views from the site to the south. A further area of high ground to the northeast of the site, with a peak of 300m aOD, also limits views in this direction. Views from the surrounding landscape towards the site are also limited from the south and southeast due to the presence of the ridge of high ground.

Kilbane Bridge (BH 1) is a Protected Structure and is located along the proposed route of the grid connection. The bridge, built c.1820, consists of a single-arch rubble stone road bridge with cut-

stone voussoirs, over Kilbane Stream. The bridge survives well but is largely obscured by vegetation (Plate 13.9). The grid connection travels along existing roads for its entire length, from the wind farm to Ardnacrusha.

The three proposed works areas along the turbine delivery route were also inspected. Two works areas (Areas 1 and 2) are located in the townland of Coolready, c. 2.5km northwest of the proposed wind farm, while the third (Area 3) is located in the townland of Ballydonaghan c. 2km west of the proposed wind farm.

Area 1 is located directly north of the R352, across a pasture field. No archaeological features were noted during the site inspection.

Area 2 is located to the east of the R352 and crosses an overgrown pasture field before continuing in to an area of forestry. A high ridge traverses the pasture field from northeast to southwest, with the landscape falling sharply to the northwest and southeast (Plate 13.10). While no archaeological features were noted within the site during the field inspection, this ridge line offers commanding views of the surrounding landscape which lends archaeological potential to the site.

Area 3 is located to the east of the R465 and passes through a small, overgrown pasture field before joining a local road (Plate 13.11). No archaeological features were identified at this site.

Areas of Archaeological Potential

Townland boundaries can be of considerable antiquity, some pre-dating the Norman invasion, and can indicate areas of archaeological potential. Through the desk-based research, a number of Areas of Archaeological Potential (AAP) have been identified across the Project (AAP 1–9). These represent the location of townland boundaries and rivers or streams, which are deemed to have archaeological potential.

Particular geological areas are also considered to have higher archaeological potential, specifically areas of peat and alluvium. The majority of the proposed site is located on an area of mountain blanket bog which has the potential to preserve archaeological features.

Particular topographic locations may also possess increased archaeological potential, such as ridge lines and areas with commanding views of the surrounding landscape. One such AAP (AAP 8) has been identified at Works Area 2. AAP 9 is located at Works Area 3 and represents the townland boundary between Drummod and Ballydonaghan.

Table 13.8: Areas of archaeological Potential within proposed project boundary

AAP No	Description	Dist. from Project	Statutory protection
AAP 1	Owebogarbey stream and townland boundary	Within site boundary	No
AAP 2	Townland boundary and stream	Within site boundary	No
AAP 3	Townland boundary	Within site boundary	No
AAP 4	Townland boundary	Within site boundary	No
AAP 5	Townland boundary	Within site boundary	No
AAP 6	Townland boundary	Within site boundary	No
AAP 7	Townland boundary	Within site boundary	No
AAP 8	Ridge line	Within 2	No
AAP 9	Townland boundary	Within 3	No

13.2.2 Replacement lands -Cooraclare, Co. Clare

13.2.2.1 Cooraclare Archaeology

Archaeological and Historical Background

The following information relates directly to archaeological remains in and surrounding the replacement lands site. For more general historical information, please refer to section 3.2.1.1. There are no recorded monuments located within a 500m radius of the replacement lands at Cooraclare (Figure 13.7). The replacement lands are located across two separate areas. Area 1 is located to the south of a local road, with Area 2 to the northeast of Area 1.

Prehistoric Periods (6000BC – AD 400)

There are no recorded sites of Mesolithic, Neolithic, Bronze Age or Iron Age date within the receiving environment. The replacement lands are however located along the northern banks of the River Doonbeg. Riverine environments provided important resources for prehistoric populations and therefore there is potential for prehistoric sites to be located in the general vicinity. For example, fulacht fiadh, as described in section 3.2.1.1 are often found adjacent to watercourses.

Early Medieval Period (AD 400–1169)

Although there are no recorded monuments within 500m of the proposed replacement planting lands, there are three ringforts located within 1km of the site (CL047-051, CL047-043 and CL057-009) and may more in the surrounding landscape. These monuments most likely date to the early medieval period and indicate that the landscape was settled during this time.

Medieval Period (AD 1169–1600)

Although there are no recorded monuments dating to the medieval period within the receiving environment, the prevalence of early medieval ringforts in the wider landscapes indicates settlement most likely continued in to the medieval period. The surrounding landscape most likely served as the agricultural hinterland of settlements at this time.

Post-Medieval Period (AD 1600–1900)

The landscape of the proposed forestry replacement lands has remained undeveloped and rural throughout the post-medieval period. As with the medieval period, no recorded monuments dating to the post-medieval period are located within the receiving environment of the replacement lands site. However, an analysis of historic maps has shown that the site and wider area was settled, particularly during the 19th century. The landscape was farmed, with numerous vernacular structures located across the landscape (CH 283 – 299), including three within the site boundary (CH 282).

Aerial Photography

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995-2013), Google Earth (2003–2014) and Bing Maps (2018) was carried out. Morden drainage channels can be seen across Area 1, while no archaeological features were identified.

Previous Archaeological Excavations

A review of the Excavations Bulletin (1970-2018) has revealed that no previous archaeological investigations have taken place within the site or receiving environment.

Topographical Files

Information on artefact finds from the receiving environment in County Clare has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the receiving environment. No stray finds have been recorded from the surrounding landscape.

13.2.2.2 Replacement lands -Cooraclare Architecture

There are no Protected Structures or structures recorded in the NIAH located within 500m of the proposed forestry replacement site. The nearest structures are located 1.7km to the east in the village of Cooraclare.

No designed landscapes were identified within the receiving environment.

13.2.2.3 Replacement lands - Cooraclare Cultural Heritage

Cooraclare cartographic analysis

Down Survey Maps of the Barony of Moyfertagh, c. 1655

The general location of the proposed replacements lands can be seen to the north of the River Doonbeg and is occupied by woodland.

First Edition OS Map of County Clare, 1840-2, scale 1:10560

This is the first accurate mapping of the proposed replacement lands and the surrounding landscape. The lands within the site is marked as 'Liable to Floods', with three vernacular structures located at the northern end of the site (CH 282). The road which runs to the north of the Area 1 has not yet been constructed. A drain is illustrated flowing from the centre of the site southwards, to the River Doonbeg. Area 2 is shown to be marshy ground on this map. No other features of note were identified.

OS Map of County Clare, 1913-8, scale 1:2500

The site is again marked as 'Liable to Flood', with the three vernacular structures also still shown (CH 282) within Area 1. Embankments are now shown along the edges of the river and drain, with other drains also shown to the south of the drain. Drains also feature along the edges of Area 2. The small road to the north of Area 1 has now been constructed.

Third edition OS Map of County Clare, 1938

A sluice is now marked along the drain in Area 1, as per the previous map, the structures are still present within the site boundary.

Table 13.9: Cultural heritage assets within Cooraclare receiving environment (Figure 13.7)

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 282	Site of vernacular structures	1st edition OS 1840-2	0m	No
CH 283	Vernacular structure	1st edition OS 1840-2	180m NW	No
CH 284	Vernacular structure	1st edition OS 1840-2	165m NNW	No
CH 285	Site of vernacular structure	1st edition OS 1840-2	230m NNW	No
CH 286	Site of vernacular structure	1st edition OS 1840-2	310m NNW	No
CH 287	Site of vernacular structure	1st edition OS 1840-2	188m N	No
CH 288	Site of vernacular structure	1st edition OS 1840-2	175m N	No
CH 289	Site of vernacular structure	1st edition OS 1840-2	440m N	No
CH 290	Site of vernacular structure	1st edition OS 1840-2	310m SE	No
CH 291	Site of vernacular structure	1st edition OS 1840-2	205m SE	No
CH 292	Site of vernacular structure	1st edition OS 1840-2	340m S	No
CH 293	Vernacular structure	1st edition OS 1840-2	110m S	No
CH 294	Vernacular structure	1st edition OS 1840-2	100m S	No
CH 295	Site of vernacular structure	1st edition OS 1840-2	180m SE	No
CH 296	Site of vernacular structure	1st edition OS 1840-2	295m ESE	No
CH 297	Site of vernacular structure	1st edition OS 1840-2	340m E	No
CH 298	Site of vernacular structure	1st edition OS 1840-2	475m NE	No
CH 299	Vernacular structure	1st edition OS 1840-2	495m NNE	No

Analysis of place-name and townland evidence within the receiving environment

Table 13.10 Townlands within Cooraclare receiving environment

Townland	Origin	Derivation	Meaning
Dangananella West/East	Irish	<i>Daingean ...</i>	Fortress
Aughagarna	Irish	<i>Achadh ...</i>	The field of.....

Replacement lands - Cooraclare Site Inspection

The field inspection sought to assess the site, its previous and current land use, the topography and any additional information relevant to the report. All plates are reproduced in Appendix 13.4.

The proposed replacement planting lands at Cooraclare are located in two separate sites (Area 1 and 2), across ten fields to the north of Doonbeg River. The western site (Area 1) is composed of eight fields which slope from north to south, towards the river. The lands here are boggy, with a high frequency of rushes and tall grass (Plate 13.12). A large drain divides the site from northeast to southwest and flows to the River Doonbeg. Flood defence banks are located along the river's edge and along the edge of the drain. No archaeological features were identified during the site inspection. No evidence for the vernacular structures seen on historic maps was identified in Area 1, however the location of the structures was heavily overgrown at the time of survey.

The eastern site (Area 2) is located across two fields. As with the western site, the fields are boggy and overgrown with frequent rushes and tall grass. No archaeological features were identified within this site.

Areas of Archaeological Potential

The proposed replacement lands are located on the banks of the River Doonbeg. Riverine environments provided valuable resources for populations in the prehistoric and historic periods and are considered to be areas of higher archaeological potential. The southern end of Area 1 at Cooraclare has therefore been defined as an AAP (AAP 10).

13.2.3 Replacement lands - Ballard Co. Wicklow

13.2.3.1 Archaeology

Archaeological and Historical Background

The proposed replacement lands are located in the townland of Ballard, Co. Wicklow. There are no National Monuments in State Care within the vicinity of the site. There is one Recorded Monument within the boundaries of the site and a further five within a 500m radius as illustrated in Figure 13.8. An enclosure (AH 57) is recorded within the proposed replacement lands. A further two enclosures, AH 59 and WI035-003, are located c. 135m east and 510m east respectively. A mound (AH 58) is recorded c. 140m east-southeast of the site and could represent activity dating from prehistory to the medieval period. It is noted as oval with a flat top. A holy well (AH 56) is recorded c. 490m north. There is also a ringfort (AH 55) recorded c. 480m east.

Mesolithic Period (6000–4000 BC)

A number of lithic scatters are recorded along the Wicklow coast, in the townlands of Ennereilly, and Seabank further south. However, there are no recorded sites of Mesolithic date in the vicinity of the replacement lands at Ballard.

Neolithic Period (4000–2500 BC)

There are a significant number of megalithic tombs in the Wicklow mountains, however, there are no known archaeological sites or monuments of Neolithic date within the immediate environs of the replacement lands. There are two rock art panels recorded c. 2.5km south-southeast of the site (WI034-030 and WI034-038) in the townland of Threewells. Rock art of this type is sometimes believed to be of Bronze Age date, however, Blaze O' Connor's research argues for a Neolithic origin for these sites (2003). It is possible that these sites straddled the Neolithic-Bronze Age transition.

Bronze Age (2500–500 BC) and Iron Age (500 BC–AD 400)

There is currently no evidence for Bronze Age or Iron Age sites within the vicinity of the replacement.

Early Medieval Period (AD 400–1169)

An enclosure (AH 57) is recorded within the northeast plot of the proposed forestry replacement lands, measuring c.38m in diameter. It is marked on the First Edition 6-inch map of 1838 as "site of fort" suggesting the enclosure was largely destroyed by that time. There are currently no visible remains of the enclosure at ground level. Two enclosures, AH 59 and WI035-003 are also recorded c. 100m east and c. 510m east respectively. Neither are visible at ground level as both are located within

existing forestry. A ringfort (rath) is also recorded c. 480m north-northwest of the proposed forestry replacement lands (AH 55). It consists of a sub-circular enclosure delineated by an earthen bank. The frequency of ringforts and possible ringforts (enclosures) in the area suggests a thriving early medieval population in the area.

The early medieval period saw the spread of Christianity throughout Ireland. The foundations of a church (W1035-014001) and associated features are located c. 1.6km southeast of the proposed forestry lands. It is believed to be located on the site of Whaley Abbey and an early medieval grave slab is present within the church decorated with a ringed openwork cross.

Medieval Period (AD 1169–1600)

There are no recorded medieval sites in the vicinity of the proposed replacement lands.

Post-Medieval Period (AD 1600–1900)

The landscape of the proposed forestry replacement lands has remained undeveloped and rural throughout the post-medieval period.

A holy well (AH 56) is recorded c. 450m north of the site, dedicated to the Virgin Mary, and known as 'Lady's Well'. A statue of the Virgin Mary is present at the site.

Aerial Photography

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995-2013), Google Earth (2009, 2014), and Bing Maps revealed that the site was previously forested and did not reveal any previously unknown archaeological features.

Previous Archaeological Excavations

A review of the Excavations Bulletin (1970–2018) revealed that no previous archaeological investigations have taken place within the proposed forestry replacement lands in Ballard or the surrounding townlands of Ballinaclash, Ballymoney, Ballyshane, Bahana and Threewells.

Topographical Files

Information on artefact finds from the receiving environment in County Wicklow has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the receiving environment. However, no stray finds have been recorded from the surrounding landscape.

Archaeological assets within Ballard receiving environment

Table 13.11: Archaeological assets within Ballard receiving environment

AH No	RMP No	Description	Townland	Dist. from the Project	Statutory Protection
AH 55	WI034-004	Ringfort - rath	Ballyshane	480m NW	Yes
AH 56	WI034-005	Ritual site - holy well	Ballymoney (Ballinacor South By.)	440m N	Yes
AH 57	WI034-006	Enclosure	Ballard (Ballinacor South By.)	0m	Yes
AH 58	WI035-001	Mound	Ballinaclash	165m SE	Yes
AH 59	WI035-002	Enclosure	Ballinaclash	135m E	Yes

13.2.3.2 Architecture

Replacement lands - Ballard, Co. Wicklow

There are no structures recorded in the RPS or NIAH located within 500m of the proposed forestry replacement site. The nearest NIAH structure is a bridge (NIAH Reg. No. 16403505), located c. 1.3km east-northeast of the site. The bridge is also a Protected Structure (RPS Ref. No. 30-03), dates to the mid-18th century and is in good condition.

No designed landscapes were identified within the receiving environment.

13.2.3.3 Cultural Heritage

Ballard cartographic analysis

Down Survey Maps of the Barony of Ballincor, c. 1655

There is no detail of the proposed forestry area shown in the Down Survey mapping of c. 1655. The townland is listed as 'Belard'.

Jacob Nevill's Map of County Wicklow, 1760

The townland of 'Ballar'd' is marked on Nevill's map of County Wicklow, 1760. A forge is marked in the nearby village of Ballinaclash. Whaley Abbey is shown to the southeast of the townland of Ballard.

First Edition OS Map of County Wicklow, 1840, scale 1:10560

This is the first accurate mapping of the proposed forestry site and the surrounding landscape. The enclosure (AH 57) is shown within the northeast plot, labelled 'Site of Fort' suggesting that the enclosure had already been heavily disturbed by this time (Figure 13.9). Enclosure AH 59 is bisected by the roadway running northeast-southwest. The proposed forestry site is shown as agricultural land, with enclosure WI035-003 and mound AH 49 also shown. Interestingly, the mound is depicted in a similar manner as the enclosures, as a sub-circular enclosure. The ringfort (AH 55) is depicted as a circular enclosure. The holy well (AH 56) is labelled 'Lady's Well'.

OS Map of County Wicklow, 1910, scale 1:2500

There is little change to the proposed forestry replacement lands by the time of this map. The enclosure (WI034-006) within the northeast plot is no longer depicted. None of the other sites in the vicinity are depicted either, however Lady's Well (AH 56) is noted.

Table 13.12: Cultural heritage assets within Ballard receiving environment (Figure 13.8)

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 300	Site of vernacular structure	1st edition OS 1838	20m E	No
CH 301	Vernacular structure	1st edition OS 1838	20m N	No
CH 302	Vernacular structure	1st edition OS 1838	120m W	No

Ballard analysis of place-name and townland evidence within the receiving environment

Table 13.13: Townlands within Ballard receiving environment

Townland	Origin	Derivation	Meaning
Ballard	Irish	<i>Baile ard</i>	High place
Ballinaclesh	Irish	<i>Baile na Claise</i>	Place of the ditch or trench
Ballymoney	Irish	<i>Baile muine</i>	Place of the brake or shrubbery
Ballyshane	Irish	<i>Baile Sea/ghain</i>	Sean/John's place
Bahana	Irish	<i>Beathana</i>	Birchlands
Threewells	English	Three wells	Three wells

Ballard Site Inspection

The replacement lands at Ballard are located across two sites. Site A is located to the northeast and encompasses an area of c.12 ha. It is bordered to the southeast by a local road, to the northwest by Ballyeustace Stream and associated streamside woodland, and agricultural fields to the north, east and southwest. The land was formerly under forestry; however, this has been felled and the area is currently overgrown, with tall grass and scattered young saplings (Plate 13.13). The land slopes from the east and south to the stream at the west and northwest. An enclosure, AH 48, is located within the site boundary, however no upstanding remains were identified during the site visit (Plate 13.14). Site B is located 80m southwest of Site A and covers an area of c. 23ha. It is bordered to the south by a local road, to the northwest and west by Ballyeustace stream and associated streamside woodland and to the north, northeast and east by agricultural land. As with Site A, this area was formerly under forestry which has since been felled and is now occupied by tall grass and scattered young saplings (Plate 13.15). The land slopes towards the stream and no archaeological features were noted during the site inspection.

Areas of Archaeological Potential

The proposed replacement lands are located on the banks of the Ballyeustace Stream. Riverine environments provided valuable resources for populations in the prehistoric and historic periods and are considered to be areas of higher archaeological potential. The northern end of Site 2 and the western side of Site 1 have therefore been defined as AAPs (AAP 11–12).

13.2.4 Replacement lands - Trillickacurry, Co. Longford

13.2.4.1 Archaeology

Archaeological and Historical Background

The replacement forestry lands are located in a rural area at Trillickacurry, Co. Longford. There are no National Monuments in State Care in the vicinity of the proposed forestry replacement lands. There are two recorded monuments within 500m of the site. A ringfort (AH 60) is located c. 35m south of the north plot and this plot extends into the zone of notification for this recorded

monument. Another ringfort (AH 61) is recorded c. 93m north of the south plot. A large body of wetlands borders the site to the immediate east.

Prehistoric Periods (6000BC – AD 400)

There are no recorded sites of Mesolithic, Neolithic, Bronze Age or Iron Age date within the receiving environment. However, the lands at Trillickacurry are adjacent to a wetland environment, which are known for their potential for surviving archaeological remains, particularly of prehistoric date. The townland name Trillickacurry derives from *Treleg a Churraigh*, which means ‘three stones of the moor’, and may suggest a group of standing stones or stone alignment was located within the townland at some time in the past.

Early Medieval Period (AD 400–1169)

There are two ringforts recorded in the receiving environment of the Trillickacurry replacement lands. A ringfort (AH 60) is recorded c. 35m south of the northern plot of land. While the feature has been levelled, it is visible on aerial photography and it is noted in the RMP file that the fosse and bank are visible at ground level (www.archaeology.ie). The proposed forestry area extends within the zone of notification for this recorded monument. A second ringfort (AH 61) is recorded c. 93m north of the southern plot of lands. This monument is not visible at ground level or from aerial photography.

Medieval Period (AD 1169–1600)

Although there are no recorded monuments dating to the medieval period within the receiving environment, the prevalence of early medieval ringforts in the wider landscapes indicates settlement most likely continued into the medieval period. The surrounding landscape most likely served as the agricultural hinterland of settlements at this time.

Post-Medieval Period (AD 1600–1900)

With the exception of isolated small vernacular structures, the wider landscape has remained undeveloped throughout the post-medieval period.

The notes accompanying the Down Survey of the Barony of Moydow (c 1655), confirms the rural nature of the area, stating;

‘There are noe remarkable townes in this Barrony, the Countrey being generally waste. There is greate store of Red Bog herein.’

Four small structures are depicted within the southern plot at Trillickacurry in the First Edition 6-inch OS map of 1836-7 (CH 304, 307, 309 and 310). Only one of these is extant by the time of the 25-inch OS map of 1911-12 (CH 309). Two small vernacular structures are also located within the northern plot (CH 303 and 306).

Previous Archaeological Excavations

A review of the Excavations Bulletin (1970-2019) has revealed no previous archaeological excavations have taken place within Trillickacurry or the surrounding townlands of Derrymore, Nappagh, Gorteenagloon, and Trillickatemple.

Topographical Files

Information on artefact finds from the receiving environment in County Longford has been recorded by the National Museum of Ireland since the late 18th century. Location information relating to these finds is important in establishing prehistoric and historic activity in the receiving environment. No stray finds have been recorded from the surrounding landscape.

13.2.4.2 Trillickacurry Architecture

There are no structures recorded in the National Inventory of Architectural Heritage located within 500m of the proposed forestry replacement site. The nearest NIAH structure is a vernacular house (NIAH Reg. No. 13401806) located c. 1.1km southwest in the townland of Cordivin. Similarly, there are no RPS structures in the landscape surrounding the site.

No designed landscapes were identified within the receiving environment.

13.2.4.3 Trillickacurry Cultural Heritage

Trillickacurry cartographic analysis

Down Survey Maps of the Barony of Moydow and the Parish of Ballinacormacke and Killish, c. 1655

There is no detail of the proposed forestry area shown in the Down Survey mapping of c.1655. The townland is listed as “Trilligs”.

First Edition OS Map of County Longford, 1836-7, scale 1:10560

This is the first accurate mapping of the proposed forestry site and the surrounding landscape. The wetlands to the east are depicted as such. A number of small structures are shown within the southern plot (CH 304, 307, 309 and 310) and within the northern plot (CH 303 and 306). Neither of the ringforts (AH 60 and 61) are recorded on this map.

25-inch OS Map of County Longford, 1911-12, scale 1:2500

By the time of this map in 1911-12, all but one of the structures within the southern plot have disappeared. Ringfort (AH 60) is shown c. 35m south of the northern plot as a sub-oval enclosure. Ringfort (AH 61) is depicted c. 93m north of the southern plot as a sub-circular feature.

Table 13.14 : Cultural heritage assets within Trillickacurry receiving environment (Figure 13.10)

CH No	Description	Map Edition	Dist. from Project	Statutory protection
CH 303	Site of vernacular structures	1st edition OS 1836-7	0m	No
CH 304	Site of vernacular structures	1st edition OS 1836-7	0m	No
CH 305	Site of vernacular structures	1st edition OS 1836-7	77m NW	No
CH 306	Site of vernacular structure	1st edition OS 1836-7	0m	No
CH 307	Site of vernacular structure	1st edition OS 1836-7	0m	No
CH 308	Vernacular structures	1st edition OS 1836-7	15m W	No
CH 309	Site of vernacular structure	1st edition OS 1836-7	0m	No
CH 310	Site of vernacular structure	1st edition OS 1836-7	0m	No

Trillickacurry analysis of place-name and townland evidence within the receiving environment

Trillickacurry derives from Treleg a Churraigh meaning ‘three stones of the moor’, perhaps suggesting the remains of a stone alignment or standing stones were once located in the townland. Derrymore, a townland that is now almost entirely occupied by bogland, derives from Doire Mór meaning ‘big oak wood’. Nappagh derives from An Cnapach, which means ‘the lumpy field’ which may refer to a natural undulation in the landscape. Gorteenagloon, meaning ‘little field of the knee’, takes its name from a legend of St. Patrick whose knee imprint is reportedly preserved in a rock in the townland (www.logainm.ie). Trillickatemple derives from Triliag a Teampaill, which means three stones of the church. A church (LF013-057001) is recorded here, presumed to be associated with the burial ground (LF013-057) but the exact location is not known. Lisduff derives from An Lios Dubh meaning the black ringfort. There are two ringforts within this townland, either of which may have given the townland its name, equally an unknown (now destroyed) ringfort may have been present in the townland.

Table 13.15: Townlands within Trillickacurry receiving environment

Townland	Origin	Derivation	Meaning
Trillickacurry	Irish	Treleg a Churraigh	Three stones of the moor
Derrymore	Irish	Doire Mór	Big oak wood
Nappagh	Irish	An Cnapach	The lumpy field
Gorteenagloon	Irish	Guirtín a Ghlúine	Little field of the knee
Trillickatemple	Irish	Triliag a Teampaill	Three stones of the church

Replacement lands - Trillickacurry Site Inspection

The field inspection sought to assess the site, its previous and current land use, the topography and any additional information relevant to the report. During the course of the field investigation, undertaken by Ross Waters on Wednesday 21st November 2018, the proposed development area and its surrounding environs were inspected. It should be noted that since the completion of the field inspection, these lands have subsequently been planted with commercial forestry plantations.

The proposed development consisted of all or part of 27 fields. There are two recorded ringforts in the study area, AH 60-61, neither were accessible during the course of the field inspection, however AH 60 was visible from the adjoining field (Plate 13.16). No previously unknown archaeological features were identified during the course of the field inspection.

The north western corner of the site is uneven, overgrown in parts, bounded by mature vegetation and was waterlogged despite the presence of a drain in the northern and western boundary (Plate 13.17).

The northern part of the site is bounded by mature vegetation with drains in some of the boundaries. The two western fields were uneven, waterlogged, overgrown in parts. Whereas the two eastern fields were better drained and gently undulating (Plate 13.18). The ringfort AH 60 was visible to the south of the area’s third field.

The southern part of the site consists of 23 separate fields. These fields were in use for grazing at the time of survey. The east half of the southern boundary was the townland boundary between Trillickacurry and Nappagh, consisting of a c. 0.5m high bank within mature vegetation. The west half of the southern boundary was formed by a c. 1m deep ditch containing a stream and drain in mature vegetation, the townland boundary between Trillickacurry and Gorteenagloon (Plate 13.19). Despite

the presence of drains throughout the majority of the field boundaries, 12 of the fields were waterlogged, perhaps due to the high volume of rain in the preceding days. The majority of the fields were uneven and contained reeds.

Areas of Archaeological Potential

The proposed replacement lands are located to the north of the Cloonkeen Stream. Riverine environments provided valuable resources for populations in the prehistoric and historic periods and are considered to be areas of higher archaeological potential. The portion of the site closest to the river has therefore been defined as an AAP (AAP 13).

13.2.5 Do-Nothing Scenario

The wider cultural heritage and archaeological landscape will remain intact and uninterrupted if the project goes ahead or not.

13.3 LIKELY SIGNIFICANT EFFECTS

13.3.1 Construction Phase

The construction phase is assessed below for the project, which includes the wind farm, turbine delivery route and the grid connection, and for the three replacement forestry lands.

13.3.1.1 Proposed Project

There are no recorded monuments located within the footprint of the proposed wind farm, grid connection or works areas, therefore there are no predicted impacts to the recorded archaeological resources during the construction phase.

Construction impacts to the setting of BH 5, Ford Edward, will be indirect and moderate adverse due to the location of the house, 20m east of Works Area 2, and the construction traffic which will utilise this new route which will result in an increase in traffic noise in the vicinity of the building. These impacts are, however, reversible following the completion of construction.

There is one Protected Structure, BH 1 Kilbane Bridge, located along the grid connection route. The grid connection, where it crosses the bridge, will be directionally drilled to a depth of 1.5m, therefore there are no predicted direct impacts to the Protected Structure.

No cultural heritage assets will be directly impacted by the construction of the proposed wind farm, grid connection or works areas. Construction of the proposed grid connection will have a direct impact on one designed landscape, that at Ballyquin House (DL 3). However, as the grid connection traverses an existing road, which already extends through the demesne, the predicted impact is imperceptible.

Construction works at Works Area 2 will impact on the designed landscape of St. Catherine's (DL 4). The Works Area is located at the eastern side of the designed landscape and does not form part of the core of the demesne, as it is separated from the main area by the R445. Construction impacts are considered to be moderate negative on the demesne as a whole, however no identified individual demesne features will be impacted.

A number of Areas of Archaeological Potential (AAP 1–3, 5–7) will be directly impacted by the construction of access roads across the proposed wind farm. This will result in slight negative impacts to the townland boundaries located within these AAPs. Should any archaeological remains be located within these AAPs, impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features. Two further AAPs will be directly impacted at Works Areas 2 and 3 (AAP 8 and 9 respectively). Potential impacts in these areas may also range from moderate to profound negative.

Previously unknown archaeological sites and features may survive below ground across the proposed project. Should any such remains be encountered during construction impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

13.3.1.2 Cooraclare replacement planting lands

There are no known archaeological or architectural heritage assets located within the boundary of the replacement planting lands at Cooraclare. Therefore, there are no predicted direct negative impacts to the archaeological or architectural resource within this area during the construction phase.

The site of a number of vernacular structures, CH 282, is located at the northern end of Area 1. Although no upstanding evidence for these structures survives, there may be associated foundations surviving below ground. The planting of forestry in this area may have a direct significant impact on any below ground remains that may survive.

AAP 10 will be directly impacted by the planting and associated infrastructure works. Should any archaeological remains be located within the AAP impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

Previously unknown archaeological sites and features may survive below ground across the site. Should any such remains be encountered during construction impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

13.3.1.3 Ballard replacement planting lands

There is one recorded monument, a ringfort (AH 57), located within the boundary of the Ballard replacement planting lands. As per the Code of Practice between Coillte and the Department of Culture, Heritage and the Gaeltacht, no planting will be undertaken on or within an exclusion zone around the monument (see Figure 13.8), therefore there will be no direct impact on the monument.

There are no architectural or cultural heritage assets located within the boundary of the Ballard replacement planting lands, therefore there are no predicted impacts to the architectural or cultural heritage resource during the construction phase.

AAPs 11 and 12 will be directly impacted by the planting and associated infrastructure works. Should any archaeological remains be located within the AAPs impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

Previously unknown archaeological sites and features may survive below ground across the site. Should any such remains be encountered during construction impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

13.3.1.4 Trillickacurry replacement planting lands

The zone of notification for one recorded monument, a ringfort (AH 60), partially extends in to the boundary of the Trillickacurry replacement planting lands. As per the Code of Practice between Coillte and the Department of Culture, Heritage and the Gaeltacht, no planting will be undertaken on or within an exclusion zone around the monument (see Figure 13.10), therefore there will be no direct impact on the monument.

There are no architectural heritage assets located within the boundary of the Trillickacurry replacement planting lands, therefore there are no predicted impacts to the architectural resource during the construction phase.

The site of a number of vernacular structures, CH 303-304, 307-307, 309-310, are located within the proposed replanting lands at Trillickacurry. Although no upstanding evidence for these structures survives, there may be associated foundations surviving below ground. As planting has already taken place at these lands, there is no predicted impact to these features.

AAP 13 is located at the southern end of the replacement lands. As planting has already taken place at these lands, there is no predicted impact to these features.

13.3.2 Operational Phase

The operational phase is assessed below for the project, which includes the wind farm, turbine delivery route and the grid connection, and for the three replacement forestry lands.

13.3.2.1 Proposed Project

The proposed wind turbines will be 169m high and will be visible across the landscape, including from existing archaeological monuments. Indirect impacts to the setting of monuments to the north and northwest of the proposed wind farm (including AH 2-3, 5, 9, 12, 14, 17- 26, 28-29 and 44-48) are considered to be slight negative due to the nature of the monuments, being largely below ground features with no upstanding remains, the distance of the recorded monuments from the proposed turbines and the level of existing screening provided by the intervening topography and existing forestry (see Photomontage No. 7 in Chapter 12 for reference).

There is little to no visibility between the recorded monuments to the south and southwest of the proposed wind farm boundary (including AH 1, 4, 6 – 8, 10, 11, 13, 27), therefore operational impacts to the setting of these monuments is considered to be imperceptible (see Photomontage No. 21 in Chapter 12 for reference).

There are no predicted impacts to the setting of the National Monuments or monuments subject to Preservation Orders within the study area (AH 49-54) due to the distance from the proposed wind farm and the intervening topography and vegetation which screen these monuments from the turbines (see Photomontage Nos. 4 and 23 in Chapter 12 for reference).

There are no built heritage assets located within the study area of the proposed wind farm, therefore there are no predicted operational impacts to the setting of built heritage assets. There are also no predicted impacts to the setting of built heritage assets within the study area of the grid connection (BH 1-3) as the operation of this element of the project is entirely underground.

There are no predicted operational impacts to the setting of cultural heritage assets due to the nature of the cultural heritage resource which consists mainly of the site of vernacular structures which are no longer extant.

13.3.2.2 Cooraclare replacement planting lands

There are no predicted impacts to the setting of archaeological, architectural or cultural heritage assets during the operational phase of the proposed forestry areas.

13.3.2.3 Ballard replacement planting lands

Operational impacts to the setting of enclosure AH 57 will be imperceptible given the immediate landscape and site have been subject to forestation and deforestation for a number of decades and there are no upstanding remains of the enclosure surviving.

There are no predicted impacts to the setting of architectural assets during the operational phase of the proposed forestry areas.

There are no predicted operational impacts to the setting of cultural heritage assets due to the nature of the cultural heritage resource which consists mainly of the site of vernacular structures which are no longer extant.

13.3.2.4 Trillickacurry replacement planting lands

Operational impacts to the setting of ringforts AH 60 and 61 will be slight negative due to the change in land use in the surrounding area from pastoral and arable agriculture to forestry.

There are no predicted impacts to the setting of architectural assets during the operational phase of the proposed forestry areas.

There are no predicted operational impacts to the setting of cultural heritage assets due to the nature of the cultural heritage resource which consists mainly of the site of vernacular structures which are no longer extant.

13.3.3 Decommissioning Phase

13.3.4 Proposed Project

There are no predicted impacts to the archaeological, architectural or cultural heritage resource during the decommissioning phase of the development.

13.3.4.1 Cooraclare replacement planting lands

There are no predicted impacts to the archaeological, architectural or cultural heritage resource during the decommissioning phase of the development.

13.3.4.2 Ballard replacement planting lands

There are no predicted impacts to the archaeological, architectural or cultural heritage resource during the decommissioning phase of the development.

13.3.4.3 Trillickacurry replacement planting lands

There are no predicted impacts to the archaeological, architectural or cultural heritage resource during the decommissioning phase of the development.

13.4 MITIGATION

13.4.1 Construction Phase

13.4.2 Proposed Project (wind farm, turbine delivery route and grid connection)

It is recommended that all ground disturbances across the proposed turbine locations, associated infrastructure and turbine delivery areas be monitored by a suitably qualified archaeologist. Excavations associated with the grid connection will be located within the existing local and regional roads. These excavations should be subject to intermittent monitoring by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works the Department of Culture, Heritage and the Gaeltacht will be informed immediately and a buffer zone of at least 20m will be established around the archaeological site. Any further mitigation will require approval from the Department.

13.4.2.1 Cooraclare replacement planting lands

It is recommended that all ground disturbances across the replacement lands be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works the Forestry Service archaeologist will be informed immediately and a buffer zone of at least 20m will be established around the archaeological site. Any further mitigation will require approval from the Forestry Service archaeologist of the Department of Agriculture.

13.4.2.2 Ballard replacement planting lands

As per the Code of Practice between Coillte and the Department of Culture, Heritage and the Gaeltacht, an exclusion zone should be established around the recorded monument on site (AH 57) on site. This exclusion zone will be fenced off from the rest of the site and no construction works or ground disturbance will be undertaken within the exclusion zone. This will ensure the preservation in situ of the monument.

It is recommended that all ground disturbances across remainder of the replacement lands be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works the Forestry Service archaeologist will be informed immediately and a buffer zone of at least 20m will be established around the archaeological site. Any further mitigation will require approval from the Forestry Service archaeologist of the Department of Agriculture.

13.4.2.3 Trillickacurry replacement planting lands

As the lands at Trillickacurry have been planted with commercial forestry, no mitigation is required.

13.4.3 Operational Phase

13.4.4 Proposed Project

There is no mitigation proposed for the operational phase of the project.

13.4.5 Cooraclare replacement planting lands

There is no mitigation proposed for the operational phase of the project.

13.4.5.1 Ballard replacement planting lands

There is no mitigation proposed for the operational phase of the project.

13.4.5.2 Trillickacurry replacement planting lands

There is no mitigation proposed for the operational phase of the project.

13.4.6 Decommissioning Phase

13.4.7 Proposed Project

There is no mitigation proposed for the decommissioning phase of the project.

13.4.7.1 Cooraclare replacement planting lands

There is no mitigation proposed for the decommissioning phase of the project.

13.4.7.2 Ballard replacement planting lands

During the decommissioning phase of the project, the exclusion zone surrounding AH 57 will be maintained and no site operations will be permitted within this zone to ensure the preservation in situ of the monument. The perimeter trees surrounding the exclusion zone will be marked with bright paint and all operational staff will be made aware of the monument's location and sensitivity.

13.4.7.3 Trillickacurry replacement planting lands

During the decommissioning phase of the project, the exclusion zone surrounding AH 60 will be maintained and no site operations will be permitted within this zone to ensure the preservation in situ of the monument. The perimeter trees surrounding the exclusion zone will be marked with bright paint and all operational staff will be made aware of the monument's location and sensitivity.

13.5 RESIDUAL IMPACTS

Following the implementation of the above mitigation measures, there will be no residual impacts on the archaeological, architectural or cultural heritage resource.

13.6 CONCLUSION

A range of both direct and indirect impacts to the archaeological, architectural and cultural heritage resource have been identified during the construction and operational phases of the proposed project and replacement lands.

There are no recorded monuments located within the footprint of the proposed project, therefore there are no predicted impacts to the recorded archaeological resources during the construction phase. Construction impacts to the setting of BH 5, Ford Edward, will be indirect and moderate adverse, however, these impacts are reversible following the completion of construction.

Construction of the proposed grid connection will have a direct imperceptible impact on one designed landscape, that at Ballyquin House (DL 3). Construction works at Turbine delivery area 2 will have a direct moderate negative on the designed landscape of St. Catherine's (DL 4).

A number of Areas of Archaeological Potential (AAP 1–3, 5–7) will be directly impacted by the construction of the proposed project (AAP 8 and 9). This will result in slight negative impact to the townland boundaries located within these AAPs. Should any archaeological remains be located within these AAPs, impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

There are no known archaeological or architectural heritage assets located within the boundary of the replacement lands at Cooraclare. There is one recorded monument, a ringfort (AH 57), located within the boundary of the Ballard replacement lands and the zone of notification for one recorded monument, a ringfort (AH 60), extending partially in to the boundary of the Trillickacurry replacement lands. As per the Code of Practice between Coillte and the Department of Culture, Heritage and the Gaeltacht, no planting will be undertaken on or within an exclusion zone around the monuments, therefore there will be no direct impact on the monuments.

The site of a vernacular structure is located at Cooraclare (CH 282). The planting of forestry in these areas may have a direct significant impact on any below ground remains that may survive.

A number of Areas of Archaeological Potential will be directly impacted during the reforestation of replacement lands at Cooraclare and Ballard (AAP 10 and AAPs 11 – 12 respectively). Should any archaeological remains be located within these AAPs impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

Previously unknown archaeological sites and features may survive below ground across the proposed project and replacement lands. Should any such remains be encountered during construction impacts may range from moderate to profound direct negative, depending on the nature and significance of the archaeological features.

Indirect impacts to the setting of monuments to the north and northwest of the proposed project is considered to be slight negative due to the nature of the monuments, being largely below ground features with no upstanding remains together with the distance of the recorded monuments from the proposed turbines and the level of existing screening provided by the intervening topography and existing forestry.

There is little to no visibility between the recorded monuments to the south and southwest of the proposed wind farm boundary, therefore operational impacts to the setting of these monuments is considered to be imperceptible. There are no predicted impacts to the setting of the National Monuments or monuments subject to Preservation Orders within the study area due to the distance from the proposed project and the intervening topography and vegetation which screen these monuments from the turbines.

It is recommended that all ground disturbances across the proposed Project (excluding the grid connection), as well as all ground disturbances at the proposed replacement lands be monitored by a suitably qualified archaeologist. Excavations associated with the grid connection will be located within the existing local and regional roads. These excavations should be subject to intermittent monitoring by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works the Forestry Service archaeologist will be informed immediately and a buffer zone of at least 20m will be established around the archaeological site. Any further mitigation will require approval from the Forestry Service archaeologist of the Department of Agriculture.

As per the Code of Practice between Coillte and the Department of Culture, Heritage and the Gaeltacht, an exclusion zone should be established around the recorded monuments at Ballard and Trillickacurry (AH 57 and 60). These exclusion zones will be fenced off from the rest of the site and no construction works or ground disturbance will be undertaken within the exclusion zones. This will ensure the preservation in situ of the monuments.

During the decommissioning phase of the project, the exclusion zones surrounding AH 57 and 60 will be maintained and no site operations will be permitted within these zones to ensure the preservation in situ of the monuments. The perimeter trees surrounding the exclusion zone will be marked with bright paint and all operational staff will be made aware of the monument's location and sensitivity.

Following the implementation of the above mitigation measures, there will be no residual impacts on the archaeological, architectural or cultural heritage resource.

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