



NORTH KILDARE WIND FARM LTD.

ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED MAIGHNE WIND FARM IN COUNTIES KILDARE AND MEATH

VOLUME 2 – MAIN EIS

CHAPTER 14 – ARCHAEOLOGY, ARCHITECTURAL & CULTURAL HERITAGE

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14 ARCHAEOLOGY, ARCHITECTURAL & CULTURAL HERITAGE

14.1 Introduction

This chapter of the environmental impact statement (EIS) evaluates the likely significant effects on the archaeological heritage, architectural heritage and cultural heritage issues arising from the proposed for the Maighne Wind Farm development.

The proposed development consists of the erection of up to 47 no. wind turbines with a tip height of up to 169m, access tracks and hardstandings, a sub-station, a permanent metrological mast, borrow pits and associated drainage works, temporary compounds as well as temporary minor alterations to the public road for the delivery of turbines to the site (turbine delivery route). The turbines are arranged in five clusters. The clusters are Ballynakill, Windmill, Drehid Hortland, Derrybrennan and Cloncumber. All clusters are connected via associated underground medium voltage (MV) cables which run predominately along the public road network linking back to a proposed sub-station on-site at Drehid. Here the power will be converted to AC up to a maximum voltage of 220kV for export to the Irish national grid via high voltage (HV) underground cables to either one of two existing substations located at Woodlands, Co. Meath or Maynooth, Co. Kildare.

Whether the connection point to the national electricity transmission grid will be located at the Woodland or Maynooth substations will be determined by EirGrid plc, which is the statutory Transmission System Operator. Accordingly, the documentation submitted with this application for permission identified and evaluates 2 no. HV grid connection routes (which will operate at a voltage up to 220kV). The 2 no. HV grid connection cable routes included in this application will connect the proposed Maighne Wind Farm substation at Drehid to either one of two existing substations located at Woodlands, Co. Meath or Maynooth, Co. Kildare. However, only one of these routes will be constructed following the identification of the preferred connection point by the Transmission System Operator.

The purpose of this section of the EIS is to evaluate the likely significance and sensitivity of the receiving cultural heritage environment and to identify and evaluate the significance of the impacts of the proposed development and associated infrastructure on this environment. In addition, where potential significant impacts are identified, mitigation measures are proposed.

14.2 Methodology

14.2.1 Study Area

14.2.1.1 Location

The Maighne Wind Farm site is located in northwestern part of County Kildare (Figure 14.1), delimited to the north and west by the counties of Meath, Westmeath and Offaly. In general the wind farm comprises an area that lies just north of the M4 and is bordered to the northeast by Clonard, to the north by Longwood and Enfield, to the east by Ovidstown Hill and Donedeia, Robertstown and Kilmeage and the Chair of Kildare Hills to the southeast, Rathagan to the southwest and by Carbury and Edenderry to the west.

The proposed wind farm is dispersed amongst five clusters namely the Ballynakill (comprising 10 turbines), Windmill (3 turbines), Drehid-Hortland (21 turbines), Derrybrennan (2 turbines) and Cloncumber (11 turbines) (Figure 14.1).

The Ballynakill cluster, (which includes two turbines in County Meath); it is in predominantly low-lying agricultural undulating land between the Rivers Boyne and the Blackwater to the north of the recently constructed M4. The Windmill cluster is located in a cutover bog lying to the north of Carbury Hill and west of the low hills at Knockcor and Mylerstown. The Drehid-Hortland cluster lies in lands to the east of Carbury and surrounds Timahoe Bog a large industrial cutover bog in lands comprising forested bog, reclaimed bog and pasture lands on the dryland–wetland interface. The Derrybrennan cluster is on island of dry pastoral land within the considerable expanse of Lullymore bog. The southernmost cluster Cloncumber is located on rising dryland to the south of Lullymore bog and beyond the foot hills of the Hill of Allen, Dunmurry Hill, Grange Hill and Boston Hill which form a topographical boundary to the south. The proposed site layout is shown on Figures 2.1.0– 2.1.3 in Volume 2a of the EIS.

14.2.1.2 Physical Landscape

Northwest Kildare is a generally lowland region bordered by Meath to the north and Offaly to the west. In order to understand the development of the cultural landscape an understanding of how the landscape was formed is required. Kildare was largely formed by glacial drifts and gravels washed out by the ice sheets during the Pleistocene period. The impeded drainage encouraged the development of fen peat in shallow basins which led to the development of the raised peatlands of the midlands. The Bog of Allen is a large bog that extends across 958km² and crosses Kildare, Meath, Offaly, Laois and County Westmeath. Large scale industrial peat extraction, created employment and attracted settlement into the area in the twentieth century, settlement that favoured the natural dry ridges that run through the boglands.

Maighne Wind Farm is sited within and immediately adjacent to the easternmost extent of the Bog of Allen. With the exception of the northernmost Ballynakill cluster, which is located in low-lying lands between the Rivers Boyne and Blackwater, the Maighne Wind Farm is located south of the Esker Riada (an east–west glacial esker ridge closely followed by the N4), within the enclosed valley of wetlands. Within this area are low-lying lands interspersed with small pockets of bog north of Carbury Hill and then by the larger expanses of bog stretching all the way south to the Grand Canal – Barrow Line and then west to the Offaly border (extending into the midlands to Lough Boora and Lemanaghan) and is bordered by the more cultivated and pasture lands of the east and north. In this western bogland zone, islands of good agricultural land are known at Kilmeague (in the historic ‘island of Allen’), Timahoe and in the barony of Carbury in the northwest.

In addition to the large expanse of bogland there are a number of rivers and their tributaries that drain the lands in the Maighne Wind Farm study area. The Ballynakill cluster is located in the area between the confluence of the River Boyne and the River Blackwater; the Fear English River and the Blackwater flow through the Drehid-Hortland cluster and the Slate River flows through the Cloncumber cluster lands.

As mentioned above these relatively flat plains are interspersed with ‘islands’ of glacial gravels. The expanse of bog is bound to the south by several hills known as the ‘Chair of Kildare Hills’ between Rathangan and Kildare town (Hill of Allen, Dunmurry Hill, Grange Hill and Boston Hill) (Fig. 14.1) and by low hills to the east and north at Killickaweeny to Ovidstown.

This contrasting topography provides an understanding as to how the historic character of the area developed over time and why there is a complexity of wet and dryland sites set in this marginal landscape.

14.2.1.3 Cultural and Historic Landscape Character

The topography and landscape of northwest County Kildare in particular the vast bogs, rivers and raised eskers which provided vantage points in the landscape has influenced the settlement pattern and structure type that is typical in the wider study area.

Even though the recorded presence of archaeological monuments is comparatively low (predominantly dating to the early Medieval and Medieval periods) in relation to other areas in Kildare and of a dispersed nature throughout the lands proposed for the wind farm, archaeological monitoring and surveying of Bord na Mona activity has shown this sunken basin of marginal land to contain numerous and extensive trackway systems across the bog forming ancient roads to places of ritual and religious significance, refuge, settlement and strategic importance from prehistory onwards. Other sites such as field systems and wooden platforms and hut sites are also emerging with ongoing archaeological investigation. These sites also indicate that there would have been associated activity in the dryer surrounding gravel hills and on the bog margins.

While the proposed wind farm lies in a rural setting to the north of Rathangan and south of Enfield it is characterised by the presence of several middle sized farm, country houses and small demesnes, churches and small villages. Historical events such as the arrival of the Anglo Normans and the plantation of the county and the rise of the industrial elite have all influenced the architectural style and built heritage.

Historically there have been substantial changes to this wider landscape i.e. in the eighteenth century with the advent of the Royal and Grand canals, bringing with them infrastructure such as bridges, locks, forges and accompanying bogland drainage which made a huge resource of the bogland accessible and in the nineteenth century by the advent of the railway, and then in the 1950’s, by the extensive exploitation of the midland bogs by Bord na Mona bringing with its industrial structures and associated development of settlement. All these factors have contributed to change within the character of this landscape overtime and have formed the modern day landscape of Kildare.

Alteration to this landscape has taken place in recent years with the expansion of commuter belt settlement from the large towns and Dublin city and by the development of afforestation, quarrying and improvement of the road network and the development of an integrated waste management facility at Drehid.

Historic Character

The proposed wind farm is sited in two distinct Landscape Character Areas (LCA's) these include the 'North-Western Lowlands' and the 'Western Boglands' and are bordered by the 'Royal Canal' and by 'Northern Hills' LCA and the 'Grand Canal' and 'Chair of Kildare Hills' LCA to the south. The key characteristics and landscape factors within each of these LCA's are described in Chapter 15 of this EIS (Chapter 15, Fig. 15 5). Within each of these areas are sites, monuments, structures and activities that have collectively influenced the historic character of these landscapes today. The dominant historical character within each area is described below in Table 14.1:

Table 14.1: Landscape Character and Historic Character within the wind farm study area

Landscape Character Areas	Historic Character types	Description of Dominant Historic Character
North Western Lowland	<ul style="list-style-type: none"> Fields (mixed regular irregular forms, straight and sinuous boundaries) Parkland Extractive industries (sand and gravel quarries) Industrial (milling) Settlements 	<ul style="list-style-type: none"> Middle sized country/farm houses and associated farm land/parkland on dry hills and eskers. Early medieval ringfort and church sites on gravel ridges Anglo Norman moated sites in low-lying areas adjacent to rivers, castle sites on low knolls, deserted medieval settlement, on gravel ridges (Mylerstown, Ardkill, Clonard) often on pre-existing early medieval monastic foundations. Clonard, Longwood
Western Boglands	<ul style="list-style-type: none"> Bog(Raised Bog) Extractive industry (Peat) Settlement (Industrial Village) 	<ul style="list-style-type: none"> A significant wetland low-lying and hidden archaeological resource comprising intact organic remains (such as linear trackways and peatland structures) and stray finds which date from the prehistoric to medieval times. The early medieval monastic site at Lullymore and the barrow complex and medieval complex at Carbury Hill form landmark sites on raised ridges within a lowland bog landscape. Remnants of a twentieth century industrial landscape with the mass extraction of peat from the bogs and associated features (e.g. bog railways and clusters of twentieth century settlement has occurred on the bog margins). Settlement at Derrinturn
Grand Canal and Royal Canal Landscape Character Areas (LCA).	<ul style="list-style-type: none"> Communications and Transport Recreation and tourism 	<ul style="list-style-type: none"> Nineteenth century railway and associated infrastructure such as viaducts, station buildings etc. These linear eighteenth century canals provide an industrial heritage character at the northern and southern edges of the study area. Whilst they were formerly bustling industrial and functional corridors of trade, representing a triumph of engineering ingenuity, the canals today are peaceful retreats and popular amenity areas and are part of the 'Royal Canal Way', 'Grand Canal Way' and the 'Barrow Way'. Some mills, lock houses and forges have found a new lease of life transformed into modern residences or used as outhouses while other have fallen into disrepair.

Landscape Character Areas	Historic Character types	Description of Dominant Historic Character
The Chair of Kildare Hills	<ul style="list-style-type: none"> • Extractive industry (sand and gravel) • Forestry Plantation 	<ul style="list-style-type: none"> • Consisting of several elevated topographical high points in the otherwise flat landscape –included is the Hill of Allen, Dunmurry Hill and Grange Hill. While extensive quarrying has occurred within these gravel rich deposits, a number of archaeological sites and protected structures are located at the summit of these hills.

14.2.1.4 Political Divisions

The proposed Maighne Wind Farm incorporates the following townlands, parishes and baronies in the northwestern part of County of Kildare and one townland of southwest Meath.

Table 14.2: Townlands, Baronies and Parishes in the Maighne Wind Farm

Townland name	Barony	Parish
Ballynakill Cluster		
Ballynadrumny	Carbury	Ballynadrumny
Ballynakill	Carbury	Ballynadrumny
Ballyonan	Carbury	Ballynadrumny
Boolykeagh, Co. Meath	Upper Moyfenrath	Clonard
Calf Field	Carbury	Ballynadrumny
Moyvally	Carbury	Ballynadrumny
Royal oak	Carbury	Ballynadrumny
Windmill Cluster		
Ballinderry	Carbury	Mylerstown
Nurney	Carbury	Nurney
Drehid-Hortland Cluster		
Ballynamullagh	Carbury	Mylerstown
Clonkeeran	Carbury	Mylerstown
Coolree	Carbury	Dunfierth
Drehid	Carbury	Ardrkill
Killyon	Carbury	Dunfierth
Kilmurry	Carbury	Dunfierth
Parsonstown	Carbury	Ardrkill
Derrycrib	Clane	Ballynafagh
Derryvarroge	Clane	Timahoe
Hortland	Ikeathy and Oughterany	Scullogestown
Knockanally	Ikeathy and Oughterany	Scullogestown
Mucklon	Carbury	Dunfierth
Coolearagh West	Clane	Timahoe
Corduff	Clane	Timahoe
Derrybrennan Cluster		
Derrybrennan	Carbury	Kilpatrick
Lullymore West	Offaly East	Lullymore
Lullybeg	Offaly East	Cloncurry
Cloncumber Cluster		
Ballyteige North	Connell	Kilmeage
Cloncumber	Connell	Kilmeage
Drumsru	Connell	Kilmeage
Feighcullen	Offaly East	Feighcullen
Glenaree	Offaly East	Cloncurry

14.2.2 Layout of the Chapter, Appendices and Figures/Illustrations

Figures

This chapter must be read in conjunction with the accompanying Figures 14.1 – 14.8 which are detailed as follows, illustrations are also provided in Appendix L4.

Table 14.3: Assessment Figures

Figure	Content
Figure 14.1	Location of the clusters in its wider landscape setting. All national monuments within 5km are shown and national monuments and sites of international importance UNESCO world heritage site and candidate sites are indicated in the 30km Zone of Theoretical Visibility
Figure 14.2	Wind farm site layout and associated infrastructure and the recorded archaeological monuments (RMP sites) within the 3km and the 5km zone.
Figure 14.3	Wind farm site layout and associated infrastructure and the Protected Structures (RPS sites), within the 3km and the 5km zone. It also shows cultural heritage features identified in the environs of the each wind farm.
Figure 14.4–7	Layout of each cluster and internal access tracks/MV cables and associated infrastructure and all the designated cultural heritage assets
Figure 14.8	Associated external infrastructure. Proposed HV Irish Grid Connection Routes, MV Cables, Haul Routes and Turbine Delivery Routes

Abbreviations used in the text

The following are abbreviations used when referring to protected structures, record of monuments and places etc. in the text:

Table 14.4: Abbreviations in the text

Abbreviation	Meaning	Unique number format
RPS	Record of Protected Structures	B followed by OS six-inch map ref and then a unique number B01-05 for Kildare sites and ME, followed by OS six-inch map ref and then a unique number e.g. MH005-080 for Meath sites
RMP	Record of Monuments and Places	KD/ME followed by OS six six-inch map ref and then a unique number e.g. KD011-107
NIAH	National Inventory of Architectural Heritage	An eight digit number e.g. 14308019
NIAH Garden Survey	National Inventory of Architectural Heritage	County ref, followed by 1:50,000 OS Map and unique ID number e.g. ME-35-N-733831/ KD
KDIAHS/MIHS	Kildare Industrial Archaeological Heritage Survey/Meath Industrial Heritage Survey	KDIAHS, followed by OS six map ref, unique number e.g. KDIAHS 011-012
CH	Cultural Heritage sites (undesignated sites identified)	CH, followed by unique ID number, e.g. CH5
DAHG	Department of Arts Heritage and the Gaeltacht	-
NMI	National Museum of Ireland	-

Appendices

The following appendices are associated with this Appendix L1-L4 of Volume 3.

Table 14.5: List of Appendices

Appendix	Content
L1	Policies relating to Archaeology, Architectural Heritage and Cultural Heritage Summary from the Meath County Development Plan (2013-2019) and Kildare County Development Plan (2011–2017)
L2	Summary of National Monuments Legislation 1930-2004 Architectural Heritage (National Inventory) Historic Monuments (Miscellaneous Provisions) Act, 1999 And Archaeological, Architectural and Cultural Heritage Designations
L3	Inventory of Recorded Archaeological and Architectural Heritage Features between 2–3km, 3–4km and 5-6km of the Wind Farm
L4	Illustrations

14.2.3 Relevant Guidance

In Ireland there are a number of policy and guidance documents issued by the government, local authorities, and semi state bodies to assist in the identification, protection and avoidance of heritage assets. These guidelines also assist in standardising the approach taken during the planning and design stages of development.

The following guidelines were considered and consulted for the purposes of the Maighne Wind Farm Project:

- I. Department of Arts, Heritage, Gaeltacht and Islands (DAHGI formerly now DAHG), (1999a), Framework and Principles for the Protection of the Archaeological Heritage DAHGI (formerly), (1999), Policy and Guidelines on Archaeological Excavation
- II. Department of Arts Heritage and the Gaeltacht (DAHG) (2011) Architectural Heritage Protection Guidelines for Planning Authorities.
- III. DAHG (2012) Code of Practice between the Department of Arts, Heritage and the Gaeltacht, the National Museum of Ireland and Bord na Móna
- IV. Cork County Council Heritage Unit (2007) Guidance Notes for the Appraisal of Historic Gardens, Demesnes, Estate and their Settings
- V. The Heritage Council, (2013), Historic Landscape Characterisation in Ireland: Best Practice Guidance
- VI. The Heritage Council (October 2013), The Onshore Wind Farm Sector In Ireland, Planning In Harmony With Heritage, Policy Research Paper, Volume 1, Draft Final Report
- VII. The Heritage Council (October 2013), The Onshore Wind Farm Sector In Ireland, Planning In Harmony With Heritage, Policy Research Paper, Review of S28 Wind Energy Guidelines, 2006 Volume 2, Draft Final Report
- VIII. Relevant sections of County Development Plans
- IX. Forest Service (2000) Forestry and Archaeology Guidelines
- X. National Roads Authority (NRA) (2006), Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes
- XI. NRA (2006), Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes
- XII. NRA (2005c), Guidelines for the Testing and Mitigation of the Wetland Archaeological Heritage for National Road Schemes
- XIII. NRA (2010), Project Management Guidelines
- XIV. English Heritage (2005), Wind Energy and the Historic Environment
- XV. English Heritage (2011), The Setting of Heritage Assets, English Heritage Guidance
- XVI. English Heritage (March 2015), Historic Environment Good Practice Advice In Planning, Note 3: The Setting of Heritage Assets
- XVII. The Heritage Council (2010) Proposals for Irelands Landscapes
- XVIII. International Council on Monuments and Sites (2011) Guidance on Heritage Impact Assessments for Cultural World Heritage Properties

Legislation

- I. Council of Europe Convention for the Protection of the Architectural Heritage of Europe (Granada) 1985, ratified by Ireland in 1991
- II. Council of Europe European Convention on the Protection of the Archaeological Heritage (Valletta) 1992, ratified by Ireland in 1997
- III. The Burra Charter, the Australia ICOMOS Charter for Places of Cultural Significance 1999
- IV. UNESCO Convention concerning the Protection of World Cultural and Natural Heritage 1972, ratified by Ireland in 1991
- V. The European Landscape Convention (ELC), ratified by Ireland 2002 European Landscapes Convention 2010. (The Department of the Environment, Heritage and Local Government 'Landscape and Landscape Assessment Guidelines' have been in draft form since 2000, however the Draft National Landscape Strategy (NLS) was launched in July 2014.)
- VI. ICOMOS Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas. Paris: International Council on Monuments and Sites, 2005
- VII. National Monuments Act, 1930, as amended in 1954, 1987, 1994, 2004 and 2012 (S.I. 249 of 2012)
- VIII. The Heritage Act, 1995
- IX. The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 1999
- X. Planning and Development Act, 2000, as amended

A summary of both Kildare and Meath County Councils policies relating to Archaeology, Architectural Heritage and Cultural Heritage is provided in Appendix L1 of Volume 3.

14.2.4 Cultural Heritage Assets (Archaeological, Architectural and Cultural Heritage)

14.2.4.1 General

Consideration of the historic environment included UNESCO World Heritage (WH) Sites and candidate sites on the Tentative List for inscription onto the World Heritage List, national monuments, recorded archaeological monuments (RMP), protected structures, designed landscapes, architectural conservation areas (ACAs), National Inventory of Architectural Heritage (NIAH) building and garden survey sites, structures of architectural heritage merit (vernacular, urban and rural), cultural heritage features, industrial heritage, placenames, language and inherited traditions.

14.2.4.2 Archaeological Heritage

'Archaeology' 'is the study of past societies through the material remains left by those societies and the evidence of their environment. The 'archaeological heritage' consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence' (1).

The Minister of the Department of Arts Heritage and the Gaeltacht (DAHG) has a responsibility to protect the archaeological heritage and to exercise powers of preservation under the National Monuments Acts, 1930–2004, taking account of the European Convention for the Protection of the Archaeological Heritage.

The protection of the archaeological heritage is provided for using the following four statutory designations:

- Record of Monuments and Places (RMP)
- National monument in the ownership or guardianship of the Minister for AHG or a Local Authority
- National monument subject to a Preservation Order (or temporary Preservation Order)
- Register of Historic Monuments (RHM)

UNESCO World Heritage sites (including candidate UNESCO World Heritage Sites on Tentative List)

Ireland ratified the World Heritage Convention in 1991 and as such pledges to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage. Ireland has two World Heritage (WH) Sites that are considered to have outstanding universal value namely Skellig Michael, an island monastery off the west coast of Kerry and Brú na Bóinne, or the Bend of the Boyne Ensemble in the Boyne Valley, County Meath

World heritage sites are sites that have an international value that has been clearly articulated. They are cultural properties considered to be of 'Outstanding Universal Value' that are part of the 'world heritage of Mankind as a whole' and 'deserve protection and transmission to future generations' (2). A Tentative List is an inventory of properties considered by each State Party to be of outstanding universal value which they intend to nominate for inscription onto the World Heritage List.

'Architectural heritage' is defined as '*all structures and buildings (together with their settings and attendant grounds, fixtures and fittings, groups of such structures and buildings and sites), which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. Architectural heritage is generally visible and has a presence in the landscape which requires assessment.*' (3)

This chapter seeks to identify the properties/structures of architectural heritage merit that will be directly or indirectly impacted by the proposed wind farm. A direct impact is where a feature or site of architectural heritage merit is physically located in whole or in part within the footprint of a potential wind farm site an indirect impact occurs where the setting of the structure is altered.

The identification, recording and protection of the architectural heritage are provided using the following:

- Record of Protected Structures (RPS)
- Architectural Conservation Area's (ACA's)
- National Inventory of Architectural Heritage (NIAH)
- NIAH Historic Garden and Designed Landscape Survey

14.2.4.3 Cultural Heritage

'Cultural heritage' is a broad term that now has come to include a wide range of tangible and intangible cultural considerations that are bound up in cultural memory and associations, belief, traditions, past knowledge, traditional and arcane practices, craft and building skills, and the oral tradition of local populations. It encompasses aspects of archaeology, architecture, history, landscape and garden design, folklore and tradition and topography.

For example cultural heritage can be expressed in physical ways as:

- settlements
- designed landscapes
- natural resources of economic value (e.g. mining sites, quarries, caves, mills weirs, fish passes etc.)
- building & structures (outside of NIAH and RPS)
- infrastructural features (coach roads, military roads etc.).

and it is also expressed in non-physical ways, for example:

- in folklore
- inherited tradition (pilgrim paths, pattern day routes, historical county fairs or long established sporting activities and traditional country pursuits)
- history/ historical events (e.g. battle sites)
- townland, placenames and language.

By identifying and articulating these sensitive values they may be considered, respected and protected in the context of change in the future. Any items of interest made known by local inhabitants during the course of site work was duly considered, recorded and assessed in the impact assessment. Site work was augmented by an examination of local publications and historic map sources, namely Ordnance Survey six-inch maps, and the Kildare Industrial Heritage Survey (4) .

14.2.5 Evaluation Process

14.2.5.1 Baseline Reporting

The evaluation process ensures that all designations relating to heritage assets as well as cultural heritage features that are revealed through research, field assessment and consultation are clearly articulated. The significance of international and nationally designated cultural heritage sites was identified as part of the EIS process.

A review of the following information took place in order to inform the cultural heritage report:

- A review and collation of nationwide surveys such as the RMP, NIAH, RPS and landscape characterisation and a review of their designations National Monuments, World Heritage Sites Candidate UNESCO World Heritage Sites
- A review of artefactual material held in the National Museum of Ireland
- Archaeological Inventory of County Kildare (in draft) and County Meath
- Local authority designated archaeological landscapes
- Cartographical Sources, OSi Historic Mapping Archive, including early editions of the Ordnance Survey including historical mapping (such as Down Survey 1656 Map)
- The Irish archaeological excavations catalogue i.e. Excavations bulletin and Excavations Database
- Place names
- Meath County Development Plan (2013–2019)
- Kildare County Development Plan (2011–2017)
- Kildare Industrial Heritage Survey (2007) and Meath Industrial Heritage Survey (2010)
- A review and interpretation of aerial imagery (Google earth 2001–2013, Bing 2013) to be used in combination with historic mapping to map potential cultural heritage assets.
- Collation of information from similar or other infrastructure projects in proximity to the proposed wind farms, for example EISs, SEAs, conservation plans, archaeological test assessments and excavations.
- A review of existing guidelines and best practice approaches.

Other documentary sources (as listed in the references section 14.7), the findings of this review is provided in Section 14.3, Existing Environment.

As part of the reporting process the following was carried out:

- A description and assessment of the receiving archaeological, architectural; and cultural heritage environment
- A review of design details and project layout
- Identification and evaluation of the significance of the impact of the proposed wind farm on the receiving archaeological, architectural and cultural heritage environment

14.2.5.2 Assessment Study Area

In order to understand and to characterise the character, context and significance of the archaeological, architectural and cultural heritage that falls within and surrounds the proposed wind farm and to identify the likely and significant impacts the following heritage assets were examined; the distances are based on consultation with the Landscape and Visual consultants (Chapter 15) and the results of their zone of theoretical visibility.

With the purpose of identifying the likely and significant impacts of the proposed development on Archaeology and Architectural Heritage and Cultural Heritage sites of different sensitivity value the study area for the assessment included the immediate vicinity of the site out to a 3km zone, a 5km zone and then to a wider scale of 30km zone (Figure 14.1), these zones are explained as follows:

Table 14.6: Assessment Study Area

Heritage Asset Types	Approximate Distance
World Heritage Sites (including candidate sites) and national monuments or significant publically accessible sites in prominent locations	30km
National monuments	5km
Recorded Monuments	3km (Detailed within approx. 2km)
Protected Structures	3km (Detailed within approx. 2km)
Undesignated Cultural Heritage features	500m
Baseline study of all site types	5km

To understand the existing cultural heritage environment, the desk based study was carried out for all designated archaeological and architectural heritage sites within 5km radius of the wind farm.

This methodology has ensured that a robust assessment has taken place on all recorded cultural heritage assets within and in proximity to the proposed development and that the likely and significant impacts are considered.

14.2.5.3 Field work

The land within the proposed clusters was inspected during the month of September 2013 and in November 2014. The field inspection was undertaken to assess current and previous land use, access to the site, local topography and any additional environmental information relevant to the site's appraisal. It sought to identify and assess cultural heritage sites that might be subject to direct or indirect setting impacts as a result of the wind farm.

An evaluation was undertaken of any identified heritage features as well as the archaeological potential of any given area. The proposed location for wind turbines and access tracks were all visited and assessed in the field. The field survey sought to identify any low-visibility archaeological features with little surface expression and to identify properties, structures or features considered to be of architectural or cultural heritage merit. All features were recorded and photographed using a GPS camera. Local heritage information was noted throughout the field survey process. Full access was gained to all the lands within the land parcels for the clusters. Outside the cluster lands assessments were made from public roads.

Where the immediate environs of a site or protected structure outside the wind farm development boundary were not publicly accessible the assessment was made on observations from the road nearby in conjunction with aerial survey and cartographic sources.

14.2.5.4 Data analysis

The mapping and data analysis was managed through ArcGIS (a geographical information programme). Information was structured by the identification of heritage assets, such as the RMP, National Inventory of Architectural Heritage and National Monuments, as point data on the programme. For this project the RMP datasets were obtained from www.archaeology.ie (accessed and downloaded 02/11/2014). The National Monuments list was sourced directly from the DAHG and added as a layer. The RPS and the National Inventory of Architectural Heritage were also obtained from the DAHG and from Meath County Council as datasets for use in the Geographical Information System for the project which formed a permanent renewable database to provide information for the EIS process. The RPS for Kildare was extracted from the County Development Plan (2011–2017).

All measurements to or from the cultural heritage assets are taken from the nearest turbine.

14.2.5.5 Photomontages

The assessment of landscape and visual impacts are examined in Chapter 15. Photomontages (contained in Volume 4) that illustrate the visual presence of the proposed wind farm from certain sites of cultural heritage significance which are common to this chapter's assessment are listed in Table 14.7 below and are referred to in the text where relevant:

Table 14.7: Photomontages that include cultural heritage assets

Reference	View	Site Status
10AH31, 10MR31	Carbury Castle on Carbury Hill, R402 at Carbury (vicinity of)	Multi period archaeological site comprising, National Monument vested with Kildare Co. Co, views associated with Newberry Hall house protected structure
10AH34	Lullymore Monastic Site	National Monument PO 11/1972,
10CP7, KEDR38, 10AH4, KEDR39, 10AH5, 10CP9, 10CP9, 10CP7	Canal Views and Canal infrastructure views	Protected structures
MHDR17	Hill of Tara	UNESCO Candidate World Heritage Site No. 5526, National Monument 676 and 148
MHDR40	Tlaghta (Hill of Ward)	National Monument 150, RMP ME030-001

Reference	View	Site Status
10AH3	Croghan Hill	Hilltop archaeological complex
10AH32	Top of Round Tower in Kildare Town	Accessible tower within zone of archaeological potential of Kildare
14AH1	Rock of Dunamase	National Monument on a hilltop location
07KV5	Top of Trim Castle	National Monument OPW site
11AH01	Views from the summit of Dún Ailinne	Vicinity of UNESCO Candidate WH site, National Monument PO Order 200/1954,

14.2.5.6 Assessment of Impacts

Every landscape presents different topographical and environmental conditions, land cover and land use and as such the location, scale and physical form of each element wind farm project and associated works are site specific. The methodology used to assess the type and level of impact assessment was based on the EPA Guidelines (2002) and the criteria adapted from the published NRA's Guidelines for Assessment of Archaeological Heritage Impacts of National Road Schemes, (2005, 58) will be applied (as set out below).

Type of Impact

The impacts on archaeological, architectural, and cultural heritage are generally categorised as either being direct, indirect or cumulative or as having no predicted impact (Table 14.8). Direct effects would be physical effects including disturbance of or damage to sites and features of cultural heritage interest; there could also be an indirect impact on the setting of a feature of significance, these are described separately in section 14.2.5.7.

Table 14.8: Type of Impact

Category of Impact	Description
Direct	Occurs when an item of archaeological, architectural or cultural heritage is removed in part, or totally, due to the proposed works. A direct impact can also occur in an area that is considered to be of archaeological potential (i.e. where a potential feature may lie subsurface) is affected.
Indirect	May be caused due to the close proximity of the proposed development to an archaeological, architectural or cultural heritage feature. Or one that may impact on the setting of a feature.
Cumulative	Occurs when there is an addition of or accumulation of many small impacts to create one larger, more significant, impact.
No predicted	Occurs when the proposed development is not predicted to adversely or positively affect an archaeological, architectural or cultural site.

Impact Quality

The impacts of the proposed development on the archaeological, architectural or cultural heritage are first assessed in terms of their quality i.e. whether positive, negative, neutral as described in the table 14.9 below:

Table 14.9: Impact Quality

Quality	Description
Negative	A change that will detract from or permanently remove an archaeological, architectural or cultural heritage monument, structure or feature from the landscape.
Neutral	A change that does not affect the archaeological, architectural or cultural heritage environment.
Positive	A change that improves or enhances the setting of an archaeological, architectural or cultural monument, site or feature.

A significance rating for the impact on a cultural heritage asset is then given i.e. slight, moderate, significant or profound (Table 14.10), which describes the scale or severity of the impact and can be temporary (short, medium and long term) or permanent.

Table 14.10: Significance of Impacts

Quality	Description
Profound	Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects are generally, but not exclusively, associated with sites and features of national or regional importance. These effects arise where an archaeological, architectural or cultural site is completely and irreversibly destroyed by a proposed development.
Significant	An impact, which, by its magnitude, duration or intensity alters an important aspect of the environment. An impact like this would be where the part of a site/structure would be permanently impacted upon leading to a loss of character, integrity and data about the archaeological, architectural or cultural feature/site
Potentially Significant	An impact on a potential feature or area of archaeological architectural or cultural heritage potential that could be significant without mitigation measures taking place. This impact relates to items of archaeological potential, possible sub-surface remains, recorded archaeology, possible archaeological sites and areas of archaeological potential as well as features of architectural heritage merit and sites of cultural heritage interest.
Moderate	A moderate impact arises where a change to the site is proposed which though noticeable, is not such that the archaeological integrity of the site is compromised and which is reversible. This arises where an archaeological, architectural or cultural heritage feature can be incorporated into a modern day development without damage and that all procedures used to facilitate this are reversible.
Slight	An impact which causes changes in the character of the environment which are not significant or profound and do not directly impact or affect an archaeological architectural or cultural heritage feature or monument.
Imperceptible Impact	An impact capable of measurement but without noticeable consequences on a cultural heritage asset

Duration of Impact

Wind farm developments are reversible in terms of setting impacts and the duration of the impacts are long term with the development proposed to span a thirty year lifetime (defined as fifteen-sixty years as described in the EPA Guidelines 2002). This is taken into consideration when examining indirect impacts associated with the development.

14.2.5.7 Setting of Heritage Assets

The assessment of setting is concerned with the understanding and appreciation of the cultural heritage asset and its significance. In accordance with the accepted guidance, setting is not exclusively about the visual envelope, it embraces considerably more than just views; an impact on setting will only occur if the change affects the contribution made by setting to the significance of that asset.

The concept of setting is underdeveloped and undefined within the Irish Planning Legislation. English Heritage in their guidance document on *The Setting of Heritage Assets* (2011) define setting as:

The surroundings in which a heritage asset is experienced.

and also makes clear that:

“Setting is not a heritage asset, nor a heritage designation. Its importance lies in what it contributes to the significance of the heritage asset. This depends on a wide range of physical elements within, as well as perceptual and associational attributes, pertaining to the heritage asset’s surroundings. Each of these elements may make a positive or negative contribution to the significance of the asset, or be neutral. In some instances the contribution made by setting to the asset’s significance may be negligible: in others it may make the greatest contribution to significance.”¹

Every cultural heritage site has a setting, or the surrounds in which the site or monument is experienced. While change within the setting of historic sites may often be acceptable, in certain instances development will be considered inappropriate as not all settings have the same capacity to accommodate change without harm to the significance of the heritage asset.

Wind farms comprise large upright structures with moving elements. Their scale relative to features in close proximity such as monuments or historical structures can have a visual intrusion on the landscape. The following factors therefore are taken into account when assessing the acceptability of wind farm developments on the setting of historic sites and monuments (adopted from English Heritage 2005, reproduced in the Heritage Council 2013 Policy Paper, Ref. 14.2.3 above):

Table 14.11: Factors to be Consider when Assessing Impacts of Wind Farm Developments on Setting

Visual Dominance	Wind turbines are far greater in vertical scale than most historic features. Where an historic feature is the most visually dominant feature in the surrounding landscape, adjacent construction of turbines may be inappropriate
Scale	The extent of a wind farm and the number, density and disposition of its turbines will also contribute to its visual impact
Intervisibility	Certain archaeological or historic landscape features were intended to be seen from other historic sites. Construction of wind turbines should respect this intervisibility
Vistas and sight-lines	Designed landscapes involve key vistas or the use of topography to add drama. Location of turbines within key views, which may often extend beyond any designated area, should be avoided
Movement, sound or light effects	Adequate distance should always be provided between important historic sites and wind turbine developments to avoid the site being overshadowed or affected by noise and shadow flicker effects
Unaltered Settings	The setting of some historic sites may be little changed from the period when the site was first constructed, used or abandoned. Largely unaltered settings for certain types of sites may be rare survivals and especially vulnerable to modern intrusions such as wind turbines

The importance of setting lies in the degree to which it contributes to the significance of the heritage asset and the attributes associated with it (such as its relationship to other sites or landforms, cultural associations and traditions) and the degree to which the existing environment contributes to the understanding or appreciation of the site.

Consideration of setting and the degree to which setting makes a contribution to the significance of a heritage site is a matter of informed professional judgement. English Heritage have produced a step by step assessment approach (2011, 2015²) it was used to assess the impact of the wind farm on heritage settings:

- identify which heritage assets and their settings are affected;
- assess whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s);
- assess the effects of the proposed development – direct, indirect, cumulative
- explore mitigation measures;
- make and document the decision and monitor outcomes.

¹ Section 2.4, page 7

² English Heritage (March 2015), *Historic Environment Good Practice Advice In Planning, Note 3: The Setting of Heritage Assets*

Once the heritage assets are identified (Step 1), an assessment on whether and how settings contribute to the significance of a heritage asset is carried out taking into account of the physical surroundings, the way an asset is appreciated, its associations and patterns of use etc. (Step 2). A check list of attributes recommended by English Heritage³ is used to assess how and to what degree settings make a contribution to the significance of a heritage asset (by examining evidential and historic values (illustrative and associative), the experience of the asset (aesthetic value), and communal heritage (commemorative/symbolic and spiritual) value). The third step assesses the range of effects a development may have on the asset's setting and evaluated the degree of harm or benefit to its significance. The fourth step is to explore appropriate mitigation measures. The final step (relating to decision making and outcomes) lies outside the scope of the EIS.

Direct impacts on the defined setting of a property site or monument are of a greater scale of impact than those that affect unrelated elements of the heritage asset, for example incidental views to or from a heritage asset that are not part of the attributes associated with the value or of the understanding of the site.

Chapter 15, Landscape and Visual deals with the current character and visual amenity of the landscape.

14.2.5.8 Consultation

The scale, form and layout of the proposed wind farm development, required a collaborative and iterative design development process with designers, archaeologists and landscape and visual specialists engaged in the process from the outset. During the EIS process every effort was made to avoid, eliminate or minimise adverse impact on the attributes of the recorded cultural heritage assets, the design and layout and number of turbines were altered in order to minimise impacts by:

- Reducing the height of turbines
- Moving turbines
- Removing turbines.

Consultation with statutory and non-statutory bodies also took place throughout the process; this took the form of meetings, phone calls and e-mails. Consultation with the following participants was carried out during the environmental impact appraisal:

- National Monuments Section, Department of Arts, Heritage and the Gaeltacht
- Project Design team (Lead Consultants)
- Landscape and visual consultants.

Chapter 4 – EIA Scoping, Consultation and Key Issues contains further details of the consultation undertaken for the scheme.

14.3 Existing Environment

14.3.1 Archaeological and Historical Background

14.3.1.1 Introduction

(All distances referred to in the text are measured from the nearest turbine to the nearest point of the cultural heritage site or established buffer zone/ property boundary if defined).

The counties of Kildare and Meath has a rich and well-documented archaeological record with evidence for human activity since the prehistoric period, the type and nature of these sites are described below.

³ Section 4, page 21

14.3.1.2 Bogland Archaeology, a hidden multi-period and layered landscape

The Maighne Wind Farm is interspersed the large areas of raised bog associated with the bogs of Lullymore and Timahoe/Drehid which is part of the vast Bog of Allen, the largest complex of raised bog in Ireland, covering 115,080ha in nine counties across the midlands. Bogs act as a rich archaeological repository; they have perfect anaerobic environmental conditions where the decay of organic material is almost stopped. They have also had ritual, social and economic significance through all phases of human activity and as such are considered to have an inherent archaeological potential.

Wooden and organic finds survive in this environment and the boglands that surround the wind farm are rich in these artefacts. Bog butter, the remains of an elk, a human forearm, possible butter paddle, leather shoes as well as wooden objects such as a shovel, wheel and keg have all been recovered from the bog in the study area (7). In Derryvarroge to the southeast of the Drehid-Hortland cluster a bog body was found in Gilltown bog.

Wooden trackways have been found in raised bogs all over the midlands and are traditionally known as toghers which is an anglicised form of the Irish word *tóchar*, meaning causeway, describing wooden trackways or roads across the bogs (8). Occasionally they are referred to as Danes' roads, although there is no evidence to link them with the Vikings. They played a very important role in the economic and social life of the periods when they were in use. The extensive bogs in the study area embayed areas of fertile ground and made access to them impossible except by long detours. Toghers were built across the bogs, usually at its narrowest point to connect areas of dry land; this is exemplified at Timahoe Bog. They also provided access to islands of dry land at the centre of bogs, such as that at the 'islands' at Lullymore and Derrybrennan, and like this example to former focal points such as monastic settlement. They range in date from the Mesolithic to the medieval period and a wide variety of methods of construction are known. These range from simple brushwood paths, wattles of hazel rods, roundwood sleepers or runners, large split oak planks, some tracks also have gravel and clay incorporated presumably to consolidate the bog beneath. They can traced over a considerable distance and based on their nature and extent they are classed into three groups, the most extensive and complex are Class 1 toghers comprising substantial timber planks and with good structural definition; Class 2 comprises a short stretch of peatland trackway, constructed of roundwood and brushwood, up to 15m in length with a discernible orientation and Class 3, a short stretch of trackway that may not be possible to trace them beyond a single sighting (9). There are also gravel/stone trackways wholly or substantially of gravel (including sand and clay), cobbles or stone slabs, or a combination of these.

When examining toghers we have to bear in mind that these bog landscapes were very different in many ways to what we see about us today. Great oak forests still clothed large tracts of land, leaving much less room for settlement and cultivation. Vast areas from which peat has now been exploited were still wide wildernesses of inhospitable bogland and huge expanses which have since been drained and reclaimed were still impassable swamps and fens. It was the presence of these bogs and fen embayed in areas of fertile ground, making passage from one area to another impossible except by long detours which led to the construction of the great majority of toghers.

There are three closely associated Class 1 toghers in Lullybeg and Lullymore East (KD012-014, -014001 and -014002) in Derrybrennan there are there are two class 1 toghers (KD012-002001). There are also peatland gravel/stone trackways recorded in Lullymore East (KD012-015), Lullymore West (KD012-016), in the bog around the dry island of Derrybrennan (KD012-003001, KD012-007) and in Drumsru (KD012-018). The archaeological survey of the bogs of county Kildare by the Irish Archaeological Wetland Unit (IAWU), conducted from the 1990's have revealed a large numbers of trackways/ toghers, platforms and related finds, indicating the accessibility of these wet soils in prehistoric and historical times.

The 'Danes' Road', a trackway in Lullymore bog, traversed the bog in three separate sections. One ran from the 'mainland' in Barnavan townland to the south. The 'road' consisted of a layer of gravel and marl, 20-25cm thick, the material for which was readily obtainable at the margins of the bog where it formed the basal deposit underlying the peat. In the course of the mechanical excavation of the peat for fuel, which led to the discovery of the 'road', planks up to 2.4m long, laid transversely below it, has come to light in the second section of the togher. These did not form a continuous stratum but occurred singly in places where the underlying peat was unusually soft. The total length of the 'road' was about 2.8km, it had an average width of the trackway in the first and second sections of about 3m, but this increased to about 4.5m (10).

Another togher in Lullymore ran for a distance of 805m to an island of firm ground and consisted of two planks of rectangular section laid side by side and supported at each end by a shorter transverse timber partly in the round but with the upper surface dressed flat to form a stable bed for the planks.

The planks were about 10m long and were anchored in place by long wooden pegs driven down into the peat either through holes in the planks near their ends or in the angles between the transverse timbers and the outer edges of the planks. The total width of the togher was about 50cm (11).

Lucas, based on the local topography and archaeological findings, estimated that the toghers in Co Kildare for example at Robertstown, Oghil and Lullymore could run in excess of 1km which is no inconsiderable undertaking given the amount of timber (worked and unworked) required and the prevailing environmental conditions (10).

An assessment of the emerging dates from these surveyed and excavated toghers in Co Kildare by Brindley (1998) has provided evidence that these toghers were in use at various times from the Mesolithic period through to the late medieval period. The very early Mesolithic date (7145 ± 35 BP and 6120 ± 30 BP) was achieved for a now destroyed togher known as Lullymore Track 1. According to Moloney of the Irish Archaeological Wetland Unit (IAWU), the timber was worked and formed a linear structure which had all the appearances of a trackway. In view of the very early date of this site extensive checking and multiple dating was carried out (12). As well as its confirmed early date this trackway is important because it shows a very early example of the use of split timber and is a rare example of woodworking techniques employed during that period.

Also in Lullymore two further tracks revealed later dates. Lullymore Track 2, a Pine track of half split pine with brushwood fill presented an Iron Age date and Lullymore Track 3 an Ash brushwood track on a roundwood foundation provided an early medieval date. In Derrybrennan the 'Danes Road' previously investigated by Rynne was also dated to the early medieval period.

Three toghers are recorded east and southeast of the site, connecting the drier land called 'Ardnacoolia' in Drehid, Parsonstown, Loughnacush and Kilkeaskin townlands with the 'island' of 'Drumachon' at Timahoe East and West townlands, eastwards across the bog (KD008-025/KD009-017, KD008-029/KD009-019, KD008-030/KD009-018). Sections of the latter two toghers have been excavated, showing a narrow oak trackway (Wth 1.25m) on a brushwood substructure (Wth 2-2.5m), with dendrochronological dating suggesting a two-phase structure: the substructure is dated to early Bronze Age and the superstructure to middle Bronze Age.

At least seven tracks were noted during field walking the extensively cut away bog of Timahoe. One track was examined by Rynne in 1966 and two tracks were examined by Munro in November 1986. A Birch track orientated east-west consisting of longitudinal road woods, irregular spaced resting on sporadic transverses with no evidence of split wood and a probable extension of this track again consisting of Birch were dated to the early Bronze Age.

An oak track that is orientated northwest-southeast and crosses the previously mentioned Birch track was recorded by Munro (1987) and is thought to be part of the track investigated elsewhere by Rynne in 1966. This track consisted of the lower part of brushwood with longitudinal timbers, separated by a thin layer of sand from the upper part consisting of massive oak planks and transverse timbers (and at least one yew long in excess of 6m in length). Three dating samples collected during the excavation of the feature returned middle Bronze Age dates.

In addition to the lengths of trackways more ephemeral unclassified toghers were identified in the bog at Drehid (KD008-025, KD008-026, KD008-027 and KD008-038) and two in Coolcarrigan (KD009-029, KD008-038).

Gravel/stone trackways have been identified in Lullymore East and Barnaran townlands (KD012-015 and KD012-007). The first site which lies approximately 0.1-0.3m below the surface of the field demonstrates the significant below ground potential in this area. The latter site is located on the eastern edge of a large expanse of bog, and is thought to provide access to/from Lullymore 'island', an area of high ground as discussed above approximately 1,300m to the north. The togher was investigated by Rynne (1964-5, 35-7) on behalf of the National Museum of Ireland, who examined its south end where it ran parallel with and close to a modern tarred road. Rynne found a wide roadway (Wth 4.5m) constructed of marl and gravel at a depth of 0.55m below the surface of the bog, with a depth of peat of at least 1.85m below the roadway. Its course was marked by a line of coarse grass growing on the surface of the bog and could be traced for c. 300m.

Six peatland structures are also identified in Timahoe West within in the centre of the cut away bog (KD008-043, KD009-027, KD009-028, KD009-030, KD009-034, KD009-035 and KD008-039) to the northeast of the existing Drehid Waste Management Facility.

Conclusions drawn from the ongoing survey work of the Irish Wetland Unit are that custom built trackways dating from the Mesolithic onwards were constructed as a response to changing local and environmental conditions and that these trackways formed an increasingly dense communication network until very recently.

It is not just the large expanses of bog that were crossed by trackways, small bogs were also crossed at their narrowest point for example at Ballindoolin adjacent the Garr River c. 2.7 to the west of Windmill cluster in a small bog (now reclaimed) remnants of a trackway (KD002-012) identified during in turf cutting which identified three leather shoes were also found in this vicinity and were classified as 'Lucas Type 5', a form of shoe in use from the late 16th/17th C-mid 19th century (13).

14.3.1.3 Prehistoric Period (circa 7000 BC - AD 400)

Historical and archaeological evidence has shown that there has been human ritual and settlement activity in this area since the prehistoric period.

Mesolithic (c. 7000 –4000 BC)

The transitory hunter-gatherer groups of this period were sustained by the postglacial climate, and attracted to dense woodland cover and large population of wild fauna. Mesolithic groups predominantly exploited the river valleys, leaving behind them only ephemeral archaeological remains that are therefore difficult to detect such as shell middens (mounds sometimes referred to as kitchen middens comprising accumulated discarded shells, animal bones, flint implements and sometimes occupation debris) and flint scatter sites.

Evidence for Mesolithic (c. 7000-4200 BC) activity from the study area comes in the form of dating results from a now destroyed wooden trackway in Lullymore as discussed above.

Neolithic (c. 4000 –2200 BC)

The Neolithic saw the transition of the early settlers from a hunter-gatherer life-style to a farming economy with the introduction of cattle, sheep, wheat and barley and possibly the introduction of new peoples. This period was characterised by land clearance and the establishment of field systems and permanent settlement sites further inland along river valleys. This period also saw new developments in ritual activity, and the first permanent monuments, megalithic tombs, were built in the Irish landscape, representing a complex and well-structured social hierarchy.

There are no upstanding Neolithic sites located within the study area. However several of the townlands within it have yielded artefacts of the period these include polished stone axeheads and stone axheads in Ballynakill, Lullymore, Hortland and in Ballyteige North and South. A polished stone axehead was recorded by the National Museum of Ireland (NMI) (Reg. P1954) in Newberry Hall Demesne and an unspecified stone object (Reg. P1950:31) which may suggest Neolithic activity in the Carbury area (7). Saddle querns have also been found in Cloncumber and Mucklon townlands (these are just a samples of artefacts which are listed and described below).

Bronze Age (c. 2400–500BC)

The Bronze Age is characterised by an introduction of metal and metalwork technology and by a change in burial rites. An exceptional find consisting of a decorated bronze axe head and leather sheath was found in Brockagh townland (southwest of Blackwood) at a depth of 4m in a bog. The sheath was slit for attachment to a strap or belt and it seems the axe was not hafted but carried around in this fashion perhaps as a ceremonial object or a status symbol.

Replacing the megalithic monuments, Bronze Age burials occurred in simple pits and cists (pits lined with stone flags) and was sometimes accompanied by pottery or other grave goods. These cists may be placed in tumuli, cairns and barrows or set within 'natural' monuments such as sand ridges or laid in so-called flat cemeteries with no above ground evidence at all.

Barrows usually consist of a circular central area, which may be flat or slightly dished (a ring ditch), or domed (a ring barrow), and has an enclosing ditch and occasionally an external bank (18) (10). Mound barrows comprise a circular or oval earthen or earth and stone mound usually with no external features. Barrows generally date to the Bronze and Iron Ages (c. 2400 BC - AD 400) and generally occur in groups or clusters.

Carbury Hill is the location of one such barrow cluster within the study area, however this is small when compared to the significant and probably one of the largest clusters at the Curragh (7.5km to the southeast) and smaller groupings at Lyons Hill and at Punchestown to the south of the county and Clonin Hill to the west. Indeed, the proximity of the barrows at Carbury indicates, not only Bronze Age burial activity, but also alludes to the presence of a Bronze Age populous in the surrounding region.

There are three barrows (a mound barrow KD008-003 and two ring-barrows KD008-004 and KD008-005) found on the summit of Carbury Hill (to the west of the wind farm, adjacent to the Windmill and Drehid-Hortland Cluster). The three barrow sites were excavated by Willmot (14) in 1936, and were found to date to the late Bronze Age/Iron Age and indicated the ritual significance of Carbury Hill during this period. The (KD008-003) composed of rock rubble mixed with earth. The mound barrow beneath the mound contained the cremation remains of a juvenile. No grave goods were found but its prominent siting might suggest that it was the earliest of the three monuments here and may date to the Late Bronze Age. One of the ring barrows (KD008-005) had two cremations and finds that included eight worked flints, a spindle whorl, two sherds of red 'gritless' pottery, a jet spoon, an iron file and a fragment of fused blue glass. An Iron Age date was suggested for the monument (14) (15). The final ring barrow (KD008-004) contained nineteen burials which included four cremations, fifteen extended inhumation burials, four of which were children. The cremations appeared to precede the inhumations and one was accompanied by two iron rings and a pin-shaped fragment of iron. All the inhumations had their heads placed towards the southwest, and one was accompanied by an iron shears. Other finds included flint scrapers and knives, a stone disc, a sherd of pottery of undetermined type and a bronze knob. The two forms of burial rite suggest a long period of use, perhaps spanning the Late Bronze Age and the Iron Age period (*ibid*).

Other barrows in the landscape do not have such prevalent positions as Carbury. There is a mound barrow site (ME047-009) on the western banks of the River Boyne in Mulpedder townland c. 2km west of the Ballynakill cluster. To the southeast of this on the southern side of the river Boyne (KD001-009) in Clonard New is a mound described by Wilde (1849) as 'a very perfect ancient tumulus' (RMP).

There is a recently excavated ring barrow in Kilrainy (KD003-026), on the summit of Ballykane Hill (OD 398 feet) c.3 km northwest of the Windmill cluster. Gravel extraction from this hill has revealed numerous features such as a metalworking site (KD003-032) and a corn drying kiln (KD003-028). These sites demonstrate the potential of the low hillock ridges of the area.

In the 1838 the Ordnance Survey Letters (16) provides an account of a report that, there was an old burial-place in Kilglass townland (KD003-007) (circa. 959m to the north of the Windmill cluster). Subsequently in 1954, inhumation burials of seven individuals were discovered in a sandpit. Three burials had been disturbed, but four could be examined. All were extended inhumations in unprotected graves with the skeletal remains orientated northeast–southwest (17). The sandpit was subsequently extended and the burial area may have been dug away. These burials may have been prehistoric inhumations which are oftentimes found in sandy soils and in particular eskers which are easily dug.

The presence of burnt mounds or *fulacht fiadh* is often indicative of Bronze Age seasonal communal activity in river valleys, lakeshores and boggy ground and can be found in groups. They are represented by small mounds of burnt stone, which were heated on a fire in order to heat water in a pit dug into a marshy area, the stones being discarded once they had cooled. Despite the very damp nature of the lands in the study area no *fulacht fiadh* sites are recorded within 2km of the clusters.

In the townland of Kilmoney North over 3km southwest of the Cloncumber cluster there is a cluster of four closely associated *fulacht fiadh* sites (KD017-013, KD017-014, KD017-015 and KD017-016). Over 3km from the study area in the drier lands in Kilmorebrannagh (KD003-031) to the north of the Drehid-Hortland cluster a *fulacht fiadh* was excavated in advance of the N4. New sites were also excavated in Meath cover 3km north of Ballynakill cluster in Lionsden (ME041-021 and –022), Towlaght (ME047-016) and Johnstown (ME048-027).

A cist burial (KD018-0121002) is prominently sited on top of what is now left of the Hill of Allen (c.4km southeast from the Cloncumber cluster). In 1903 an historian recorded that on the summit of the hill stands a tower (KD018-021003) in the centre of a raised mound (KD018-021001) where a cist is said to have been discovered by workmen (the tower now stands on a sheer cliff-edge formed by the extensive quarry which has removed a significant portion of the Hill to the south, west and north).

There is a record that a 'low' standing stone was once located on Dunmurragehill (KD009-013) which lies between 2.7km of the Drehid-Hortland Cluster. To the east of Rathangan over 3km from the Cloncumber cluster there is another site (KD017-049) to the south of the Slate River.

Standing stones are generally dated to the Bronze Age and Iron Ages (c. 2400BC-AD500), and while they occasionally mark burials, they can mark routeways through the landscape, sacred areas, or territorial boundaries

Iron Age Period (c. 600 BC -400 AD)

The transition between the end of the Bronze Age and the beginning of the Iron Age in the first millennium B.C. is difficult to define and the monuments directly dated to this period are few (18). Iron Age culture in Ireland is marked by the transition from bronze to iron working, by the introduction of rotary querns, by a tradition of large decorated stones, of linear earthworks and the continued use of hillforts.

Just off the summit of Dunmurry Hill is a large hilltop enclosure (KD022-001001) measuring c. 370m NW-SE; c. 200m NE-SW, this enclosure contains a mound, possibly the remains of a cairn (KD022-001003-), the remains of a poorly preserved smaller enclosure (KD022-001002-) and two possible hut sites (KD022-001004- and KD022-001005-). Located on a high ridge to the north east are a number of on the face of it later monuments including a well, castle site and a mound (see below). A large telecommunications compound has been built in the northwestern area of the enclosure and a service road overlies the older enclosing element along the southwest (13).

On the southern side of the Chair of Kildare Hills is royal site of Dún Ailinne where the kings of Leinster were inaugurated and the ritualised landscape of the Curragh (discussed further below).

The Hill of Carbury was referred to in annals as *Sidh Neachtain*, meaning the fairy fort of Nechtain, the King of Leinster, which suggests that there was a fortress here, perhaps a hillfort. According to Hicks the term '*síd*' can be considered in folklore as 'the dwelling places of old gods' because of its association with myths and legends (19). Wilde recounts the story written in the Book of Ballymote dated to the 1st century about the king's wife Boan who was besieged by the waters of the eponymous River Boyne at its source located at the base of Carbury Hill where there was a magic well (20). The well was later Christianised and became known as Trinity Well (located within Newberry Hall Demesne) (KD008-012) (21) (22). Wilde however asserts that the true source of the Boyne

"...rises in an adjoining bog or marshy ground to the north of Carbury, — a branch of the great bog of Allen which extends towards the east, — and creeping round the base of the hill to the neighbouring demesne of Newberry, passes under a small bridge upon the Enfield road, as we enter the little village of Carbery adjoining". (20)

In folklore Carbury is also linked with Green Hill (Donadea) and Rourke's Hill. The hill of Allen, associated with Almu, the legendary strong hold of Fionn MacCumhail, Grange Hill and Dún Ailinne are also thought to have been '*síd*'s.

14.3.1.4 Early Medieval/Early Christian Period (circa AD 500 to 1100)

Settlement Activity

There is a distinct distribution pattern of early medieval sites in this landscape, the monuments relating to the period include ringforts, holy wells and churches and singular examples of a souterrain and a crannóg. The early medieval sites in this landscape are widely distributed; they are primarily located around the outer edges of the bog taking advantage of localised natural ridges in the landscape where the lands are well drained and gently undulating.

The early medieval period saw the development of a mixed-farming economy managed by kings, nobles and free farmers. Carbury is mentioned many times in the Annals of Ireland indicating its territorial significance. In 458 A.D. the Annals of the Four Masters records the death of Laoghaire, High King of Ireland, at *Sidh Neachtain*.

The territory of the Uí Faeláin (O'Byrne) was the tribal grouping who ruled the northern part of County Kildare up until the time of Norman Invasions, the Cairpri Laigin (O'Ciardha, O'Keary or O'Carey) were the tribe who's name survives in the name Carbury and were lords of this part of the northwest frontier of Leinster (21), (23).

Additional improvements in agriculture from the 5th century AD resulted in a further wave of settlement expansion and population increase in rural Ireland, leading to the construction of the modern landscape's most common archaeological site: the ringfort, or its Irish equivalent, the rath. Ringforts are circular enclosures, essentially habitation sites or farmsteads. They were not simple isolated homesteads, however, and should be considered within their contemporary settlement landscape, which would have consisted of unenclosed settlements, farms and fields, route ways and natural resources (24).

Typically, they are sited on good, well-drained soils, usually over the 100m contour, close to a water source, and often located in proximity to routeways (ridges, eskers, moraines) as is the case of a number of sites within the study area where there are several examples that are located on the edge of bog for example at Mulgeeth (KD009-001 and KD004-011) lying just below the 300ft contour line on dryland adjacent to the bog and in Coolree (KD004-008, KD004-009) and Hortland (KD009-002).. There are 46 ringforts within 5km of the Maighne Wind Farm.

Enclosures sites are areas defined by an enclosing element (e.g. bank, wall, fosse, scarp), or indicated as such cartographically, and occurring in a variety of shapes and sizes, possessing no diagnostic features which would allow classification within another monument category. There are 39 enclosure sites recorded in the 5km study area, they have much the same distribution as the ringfort which may suggest that they may be ploughed out examples, though a prehistoric origin (such as barrow sites etc.) cannot be ruled out. Ringforts are the most common monument found within the study area, but when taken into account with the number of enclosures (potentially degraded ringforts) this presents significant early medieval activity in area.

Closely associated with ringfort sites are crannógs, which are wholly artificial islands of the period built up by dumping timber, earth and stones onto a lake or river bed, often revetted with timber piles or a palisade. There is a crannóg located c. 800m north the Drehid-Hortland cluster in Dysert (KD004-014001, NMI 1958: 1). It was discovered during drainage work at the confluence of a small northeast-flowing stream with the northwest-flowing River Blackwater. A gravel causeway is recorded to have approached the site from the west. The presence of the crannóg in this dry location demonstrates the changing nature of this landscape.

In advance of the M4 Kinnegad-Enfield-Kilcock Motorway Scheme an early medieval enclosure (KD004-039) was excavated in Cappagh, c.4km to the north northwest of the Drehid-Hortland cluster on higher ground. Three early medieval house structures (KD004-039001-003) and a metalworking site (KD004-039004-) were identified in the interior of the site.

Non-secular activity

Where ringforts were the major secular component of early Christian settlement, ecclesiastical centres became the focus of the new religion that was readily adopted in the 5th and 6th centuries.

Early medieval monastic settlements tend to be defined by a large curvilinear bank and ditch or stone enclosure (topography permitting), enclosing an area circa 90-120m in diameter, often preserved in the line of townland or field boundaries and roads (Swan, 1988). The majority of ecclesiastical settlements had one or more concentric curvilinear enclosures, with the church placed at the centre, in the inner sanctum (frequently preserved in the surviving graveyard boundary), with more secular activities (domestic, commercial and industrial) reserved for the outer enclosures. They usually had a network of radiating roads, with the principal approach road (often from the east) terminating in a triangular market place. Features commonly found to be associated with early ecclesiastical sites include holy wells (usually outside of the main settlement), bullaun stones, high crosses, cross-inscribed stones and round towers. One ecclesiastical enclosure is recorded within the environs of Maighne Wind Farm at Lullymore (a National Monument), this site is publically accessible and contains many of the afore mentioned elements with the difference that instead of being accessed by roads, wooden trackways or toghers were constructed given the surrounding bog environment. Demonstrating the resourcefulness and response to local environmental conditions by the people of the time.

The ecclesiastical monument of Lullymore (KD012-006001-011) c.2.3km from the Derrybrennan cluster comprises the poorly preserved remains of three large concentric enclosures, at the centre of which are a possible church site, a graveyard and a possible field system. There is a bullaun (KD012-006007) on the site, together with three cross-inscribed stones (KD012-006009, -006010 and -006011).

Seven other cross-inscribed stones (KD012-010, 010001 to 010005 and 010008) and two small crosses (KD012-010006 and -010007), are relocated to a 1798 memorial in Lullymore West. An eighth cross-inscribed stone (KD012-020), also from the graveyard, is now in the Bog of Allen Nature Centre Museum. An un-located holy well (KD012-006008-) also appears to have been associated with the site. The crosses were discovered during the construction of a ditch by the Land Commission in the 1930s; skeletons were found with them and were reburied in a nearby cemetery (25). There is little historical information on Lullymore but it is thought to be referred to as 'Licach' in the annals where there are possible fragmentary mentions of the building of the banked enclosure in AD 722 where an army of the Northern and Southern Ui Neill and the King of the *Hy Maine* from Connaught, were defeated by forces from Leinster in the area near the Hill of Allen, and that their king, Aedh Laighen, was killed.

Some survivors sought refuge burial for their king at Lullymore:

'and it was on this occasion that the Ui Neil and Connaghtmen erected the wall of the church, they being in the disguise of the clergy, and they were thus saved through the miracles of saints; so that the friendship of the Ui Neill and the Connaghtmen is in that church',

The wall of the church or as described in the annals as '*cladh na cille*' is understood to mean a bank, ditch or boundary and is considered by Devitt to be the only structure of this type in Ireland where the builders are known (25).

The medieval settlement activity of the period is also evident in Clonard which is located just less than 3km to the northwest of the Ballynakill cluster. Clonard is situated in a strategic position on the *Esker Riada* and on the boundary between the kingdoms of Leinster and Meath. The area to the east of the modern village is a medieval landscape where there are remains of an early and late medieval archaeological complex. The early monastic church was founded at Clonard (*Cluain Iraird*) by St. Finnian in c.520 where it became one of the most important centres of Irish Monasticism (26) and endured up to the twelfth century. In c.1144 St. Marys Augustinian Abbey was founded at Clonard by Murhchad O'Melaghlin for Arroasian canonesses and St Peters Augustinian Abbey was founded a short time later c.1146. Very little remains of the early Christian period survive. It was the diocesan centre of Meath until Simon de Rocheford moved it to Newtown Trim in 1202 (RMP). To the west of the town is the site of St Finnian's church (ME047-007) with architectural fragments (-00701), a stone trough (-00703), a carved medieval octagonal font (-00702), a graveyard (-00704). Northwest of the town are two enclosures (ME047-001 & -002) and a ringfort (ME047-003). The extent of the settlement is indicated by the low-lying earthworks present around the town that is evident and best appreciated in aerial photography.

There was also an early ecclesiastical foundation (KD004-021002-) at Cloncurry though little is known about it (c.3.5km north-northeast of Drehid-Hortland cluster) it was subsequently developed as an Anglo-Norman borough (KD004-021001, discussed below).

Other possible ecclesiastical sites in the landscape around the wind farm include those recorded in Hortland (KD004-018001), in the lands associated with Hortland House, the interior contains a possible church site (-018002-), and incorporates the western limits of a later graveyard (-018003-), at Kilraoney (*Cell Rignach*) (KD003-002001) where a bullaun stone (KD003-002004) was also noted, Ardkill (KD008-009003), Capanargid (KD017-007002), Feighcullen (KD017-009004) and Kilmoney North (KD017-018003).

To the south of Carbury Hill is a church and graveyard (KD008-00600, 002). The graveyard is roughly rectangular and is defined cross-capped, mortared stonewall. The earliest legible headstone is dated 1794. A possible levelled church site northwest corner of the graveyard; possibly the Templedooth ('Black Church') of the graveyard's name. Speculation on the origin of the name makes an attempt to associate the site with a place called *Caille* where St Muadhnat Virgin lived i.e. *Temple Muahadnat* which according to Wilde sounds like *Templewoath* which, in the Anglicised form, might be written, Templedooth (21) (27).

While many early ecclesiastical sites and later medieval churches will have an associated holy well, the latter can also be recorded in isolation, with no apparent religious associations. Strictly speaking, holy wells are not 'official' church sites. Rather, holy wells are essentially a Christian adaptation of a pre-Christian tradition of sacred springs, which, like their pagan predecessors, were often visited at certain times of the year, such as saints' or other holy days, and they often had the reputation for effecting cures.

The closest holy well sites to the clusters are over 2–3km to the northeast, north and southeast of Drehid-Hortland cluster in Gorteen (Dunfiirth ED) (KD004-007) which is the site of a well which is no longer visible at ground level, 'Furan Well' in Dunfiirth (KD004-023) located on the corner of a moated site (KD004-012) and Dunmurraghill (KD009-024) which is known locally as 'St Peter's Well', used as a domestic well and is not associated with any cure.

Trinity well (KD008-012), thought to be the source of the River Boyne in the lands of Newberry Demesne was frequented on Trinity Sunday (the 8th Sunday after Easter), during which pilgrims drank the water which was considered to be lucky (28).

Children's burial grounds, sometimes known as killeens (*cillin*) or caldraghs (*ceallúrach*) are patches of unconsecrated ground, where unbaptised babies or victims of suicide or drowning were buried. They are sometimes located within ringforts, or other archaeological monuments, which were regarded as somewhat other-worldly places. They can also be located directly outside church graveyards, often as a small field attached to (but not part of) the sacred area. Very occasionally they appear in early or medieval church sites which had fallen out of use. They are often characterised by rough ground, and by small stone grave markers with no names. There is a Children's burial ground in Cadamstown (KD003-015001), Grange (KD004-026007), Timahoe West (KD009-006001), Dunmurraghill (KD009-011003), Cloncurry (Offaly East By., Cloncurry Ed) (KD017-008001) and Johnstown (ME048-031003).

14.3.1.5 Medieval Period (late 12th century (1169)–early 16th century AD)

Introduction

The distribution of the medieval (Anglo-Norman) sites (motte and baileys, motte sites, castles and churches) in this landscape have a notable pattern being located on dryland ridges overlooking routeways and also the bog. The Anglo Normans came to Ireland in the middle of the twelfth century, bringing with them new military traditions and fortifications, new languages and new social structures. At the time the Irish lived in dispersed farmsteads i.e. ringforts; the sole nucleated settlements, isolated churches or proto-urban centres were monastic sites.

Initial Anglo Norman Arrival

Kildare became one of the first feudal territories of the Anglo-Norman settlement, owing to its proximity to Dublin and as a passage linking the colonies to south Leinster and east Munster (29). By the end of the 12th century, the Anglo-Normans had succeeded in conquering much of the country, bringing with them new military traditions and fortifications, a new language and new social structures and the Gaelic septs of the O'Byrne, O'Toole, O'More and O'Connor were displaced to the Wicklow uplands and the midland bogs (30). Their legacy is felt throughout the modern county of Kildare, the land of which was inherited, along with Laois, Offaly and parts of Wicklow, by Richard de Clare, or as he is better known, Strongbow. Strongbow quickly began granting the lands of Kildare to his loyal supporters, building a network of defensive military earthworks to hold the newly acquired land in the late 12th and early 13th century AD. These earthworks are referred to as mottes: large flat-topped earthen mounds, usually with steep sides, surrounded by a fosse and originally topped with a wooden lookout tower or *bretasche*. They were often associated with a rectangular enclosure defended by a bank and ditch and palisade fencing known as a bailey. They were usually located at defendable vantage points, often overlooking fords on rivers or access routes.

Carbury barony was originally granted to Meiler FitzHenry but ownership was subsequently reverted to William Marshal (31). The Barony of Carbury was first mentioned in 1234, by which time the earliest phase of the masonry castle must have been built (32), erected reputedly, in 'Ua Ciardha's fort' by the de Bermingham family, the descendants of Pierce De Bermingham, one of the early English settlers in Ireland (21) (27). Located at the edge of a rock scarp on the northern shoulder of Carbury Hill there is the site of a motte (KD008-001001), which carried the timber castle, of which there is no visible surface trace,. The site was altered when it was used as a courtyard for the later main stone castle beside it (there are some traces of a wall around it) (33) (13) (34).

As the seat of the bishop of east Meath, Clonard, with its established settlement and strategic location, was targeted for Anglo Norman colonisation and settlement. In contrast to the early medieval period, the Anglo Norman landscape is more intact (35), a motte (ME047-004) was erected here by Hugh de Lacy in c. 1182 in a bid to control the area. Adjacent to this is a ringwork site (ME047-005). A second motte and bailey was erected in the townland of Clonard New (KD011-009) in the 12th /13th century (35). The Augustinian priory of St. John was then founded in 1183-6 by de Lacy, thought to be at the site of the present day Church of Ireland Church. Simon de Rochford was the first Anglo-Norman bishop of east Meath with his seat at Clonard. Clonard became one of the largest estates in the subinfeudation of the lordship of Meath (35) (36) a garrison town.

To the south of the town is a large field system covering c. 30 acres, now largely reclaimed. Excavation by P. D. Sweetman (JRSAI 1978, 12-15) revealed that most ditches were medieval. Included in the complex are the ring-work, an enclosure site (ME047-006) and the motte and bailey. There are also two recorded burial grounds (ME047-015 and ME047-017).

In 1305, Peter de Bermingham, arranged the massacre of some 29 leading O'Connors of Offaly and their followers at his table in the castle at Carbury, implying links with the native Irish but also continuing hostility (37) following which there was great warfare. In 1368, the Sheriff of Meath was imprisoned by the malefactors of Carbury.

There is a motte in the lands associated with the former Hortland Demesne (KD004-017) (over 1km west of the Drehid-Hortland cluster), constructed to protect lands and possessions from the unconquered Irish to the west of Hortland which was previously known as Scullogestown (or Ballysculloge). The Ordnance Survey Letters recorded the former existence of 'an old castle (beside the moat)' (KD004-019) here and a church site and graveyard (KD004-018) (16) (13).

Moated sites represent rural, dispersed settlement in the medieval period and were essentially defended farmsteads of Anglo-Norman settlers in late 13th/early 14th centuries and possibly represent a second wave of settlement into more marginal land (38). They comprised rectangular shaped enclosures defined by a large deep ditch (that was water-filled) and banks that would have been surmounted by a palisade fences and they would have been at the centre of agricultural manors. They are generally situated on low-lying ground, though their interiors can be elevated. They are sporadically distributed around the study area however they are all located close to watercourses. There are seventeen moated sites within 5km with and twelve within 3km indicating that the area was densely settled by these new farmers, comprising sites at Moyvally (KD001-004), Drehid (KD008-024), Dysart (KD004-033), Killrathmurray (KD001-003), Drehid (KD008-024), Drumsru (Kilmeage North ED) (KD017-003), Clonagh (Cadamstown ED) (KD003-025), Dunfierth (KD004-012, KD004-030), Gorteen (Dunfierth ED) (KD004-032), Rathmore (Windmill Cross ED) (KD008-019), Killinagh Upper (KD012-005) and Ballinderry (ME047-013) all located in low-lying land in the vicinity of a watercourse.

Kildare was one of the four counties amongst Dublin, Meath and Louth which formed the English Pale. The boundary was delimited by an act of the parliament which met at Drogheda in 1495. The delimited boundary of the Pale in 1495 marked this zone. There are well preserved small sections of the Pale in Clane that survive, the best preserved semi-continuous portion runs through Clonduff, Ballybrack, Graiguepottle, Clonfert South and Ballyloughlan townlands. By the seventeenth century, it had ceased to have any political or defence significance. The delimitation of the Pale was merely the official recognition of the existence of a frontier zone in the west of the county, a feature which was in existence at the beginning of the fourteenth century when the earliest raids by the Irish upon Norman settlements are recorded. The study area lay outside the Pale boundary.

The enduring legacy of the Anglo-Normans is, however, the masonry stone castle, and, in both Norman and Gaelic areas.

The masonry castle at Carbury (KD008-001002) is prominently sited at the northern shoulder of Carbury Hill, just north of its summit overlooking the Carbury Bog to north and east, the northern extent of which is the area proposed wind farm development (circa 1.8km to the north); there is pastureland to the south, east and west. The motte, described above, may subsequently have been reused as a bawn or bailey associated with the masonry castle. A high, vertical quarry face runs along the west and north of the motte suggesting that this area may have been quarried originally to provide building stone for the castle; a process which would have also increased its defensive siting. The masonry castle survives as a sub rectangular structure defined by conjoined east and south walls of random rubble construction, surviving to three storeys and lit at ground floor level by a loop in the east wall and one in the south wall. The castle is entered through via a stone-revetted ramp which is not bonded to the castle wall. This first phase of the stone fortress may date to shortly before 1234 and not long afterwards, in the late-13th century, three parallel barrel vaults were inserted in, but not bonded, to the original structure. The west wall of unbattered, coursed rectangular blocks is later again and contains a doorway with segmental pointed arch, of possible 16th century date, and may follow an older wall line.

Tower houses and fortified houses were defensive habitations, built predominantly in the 15th and 16th centuries, although a few examples may be earlier in date and some are known to have been built as late as the first half of the 17th century. The fortified residence of the landholder were symptomatic of the unrest and insecurity of the time and the majority of the castles were small three to five storeys in height linked to defensive walled enclosures or bawns which partially or completely enclosed the site.

They often had very thick walls, intramural staircases, small windows (the earliest had very thin arrow or musket loops) and a vaulted first storey, to prevent the spread of fire. They were usually found adjacent to medieval churches. Some of these castle sites or tower houses are located within demesne lands formalised in the 18th and 19th centuries and represent the forerunners to the later country houses built there.

Examples of tower houses are recorded in Ballyteige North (KD013-020) which may have been restored/rebuilt as a folly. The tower house builders in the area took advantage of high points in this landscape; there are sites on the summit of an east–west line of low hills from Mylerstown (KD003-012), Ardkill (in ruin, KD008-008001), Grange West (KD002-007) and Edenderry (OF012-003001) in Offaly.

Many of the tower houses have all but disappeared and some comprise low rubble remains. Upstanding examples in the study area include Donedea Demesne (KD009-015001) and Newcastle (ME048-018). Further to the west in Killinagh (KD003-004), over 2km from the wind farm are the remains of a tower house. All that survives of the castle is a short portion of foundation walling projecting from underneath a later 19th century farm building. Similarly there is little surviving of the castle in Balrinnet (KD003-005001) however there is possible associated medieval field system (KD003-003002-) and hollow-way (KD003-003003-). There is a tradition that the site of the castle was possessed by one of the 12 sons of Horus (Pierce) Birmingham, all of whom had castles in this neighbourhood (16).

There are no upstanding remains of Clonagh castle (Cadamstown ED) (KD003-017) where the presence of a 'religious house' (KD003-020), 'burial place' (KD003-020001-) and stone cross (KD003-02002) in this area. The stones from the demolished Clonagh Castle were used to build 'Kilshanchoe Church' (KD003-027) (13). Two armorial plaques (KD004-002) incorporated into the walls of a primary school in Johnstown village and an architectural fragment (KD004-003) incorporated into a modern wall in the village are said to have come from the castle. Similarly there are no upstanding remains of the tower house sites at Kilmeage (KD018-003), Moyvally (KD001-005), Brackagh (KD002-005), Dunfierth (KD004-006), Clonkeen (KD008-014), Timahoe West (KD009-009), Drinnanstown North (KD017-019), Carrickanearla (KD017-028002) and Grangeclare West (KD013-021) where a bawn survives.

At Carrickanearla the tradition of a castle site is recorded from a 1674 survey of the estate of John, 18th Earl of Kildare, '*Carrickanearle contains... A Peace of An old Castle upon a high hill betwixt two mountains...*' This castle would have stood on a commanding narrow pass between Grange Hill and Dunmurry Hill. The mound is also referred to as the actual '*Chair of Kildare*' and is named for and associated in local tradition with the Earls of Kildare. It presents as a well preserved, though overgrown, high, steep sided, flat-topped circular earthen mound. It is suggested that this is an inauguration site (KD017-028004) and a pamphlet now held in Trinity College provides an account of a ceremony of electing a sovereign here in 1730. Anglo-Norman families are not normally associated with sites such as this and it would be unusual if the monuments here had been used in such ceremonies, however the name of the site 'the Chair of Kildare' does suggest a possible ceremonial function.

To the east just over 1.5km from the Windmill cluster is the ruined castle (KD003-012) of Mylerstown (Drehid ED). According to Wilde it was '*another stronghold of the Berminghams*' (27). Only two parallel, lower portions of castle walling and two sections of associated but collapsed mortared masonry survive. The monument was probably a tower house (33). To the northeast of this there are the remains of a church and graveyard in the same townland (KD003-011001, -002). The graveyard is a sub-rectangular area raised slightly above the surrounding ground and is enclosed by a modern stone wall. It contains a ruined church (KD003-011001) and outside of which is a possible 17th century grave slab (KD003-011003). Legible grave markers date from the 18th century. The graveyard is still in use, with modern burials concentrated to the south of the church.

Approximately 3km to the southwest of the wind farm is a deserted medieval settlement in Ardkill comprising a tower house (KD008-008001) a bawn (KD008-008003) and a medieval church (KD008-009001) and graveyard (KD008-009002). Only the eastern angle of a very poorly preserved, two-storied structure survives, together with a small rectangular corner tower which may be a later addition. The tower house is dated to the fifteenth/sixteenth century, with the fireplace and chimney turret added in the seventeenth century.

Carbury suffered greatly at the time of the civil wars in Ireland, particularly during the 15th century, and was constantly the scene of strife in those forays which took place between the English barons within the pale, and the western Irish chieftains. In 1447, Lord Furnival rebuilt the castle, which was subsequently 'demolished' in 1475 and the neighbouring castle of Ballymeyler (Mylerstown) by Red Hugh O'Donnell. As late as 1546, we read the *plains of Cairbre* and Castle Carbury were plundered and burned by some of the Irish insurgents, particularly the O'Kelly's the O'Maddens, and O'Conors.

When as reported the Annals (21), the Lord Justice, Anthony St. Leger had heard of this, he came into Offaly, and plundered and burned the country as far as the Togher of Cruoghan and once again

'the Lord Justice came a second time into Offaly, and remained fifteen days in the country, plundering and spoiling it, burning Churches and Monasteries, and destroying crops and corn.'

In 1561, on the death of the younger Walter Bermingham, the castle passed to Sir Robert Preston, Chief Baron of the Exchequer, brother-in-law of Bermingham, and ancestor of Lord Gormanstown. And in 1562 the ownership of Carbury Castle passed to the Colley family, ancestors of the Duke of Wellington, and it was finally abandoned in 1774 (21).

The name Rathangan ('Rath Iomghain') derives from the rath (KD017-011001-) on the northwestern edge of the town, which appears to have been reused as an Anglo-Norman ringwork (KD017-011004-) when Rathangan was granted by Strongbow possibly to Robert de Bermingham, as part of his cantred of Offaly, or to Maurice Fitzgerald, to whom it belonged by 1268. Located in frontier territory, on the borders of the Ui Conchobhair's Ui Failghe, in 1300, the 'vill' of Rathangan was burned by the 'Irish'. An assize of 1308 records that Gerald Fitzgerald held his court there, indicating that it was a manor of some importance, and in 1331 there were possibly one hundred and twenty burgages there (Bradley et al 1986 vol. 4, 414). It also contained a church (KD017-011003). During the 15 century, Rathangan passed into the hands of the *Ui Conchobair Failghe*. The castle (KD017-011003) was described as one of the strongholds of Silken Thomas during his rebellion in 1535, and in 1540, the village of Rathangan numbered eight messuages, ten cottages and a watermill. It was plundered in 1546, but was later granted a market in 1672. Rathangan stands on a ridge immediately north of the Slate River, surrounded to south, west and north by large tracts of bog. The street pattern is linear, and while plots on Main St. reflect a burgage-plot pattern, the layout of the settlement appears to be no older than the seventeenth century (13) (15). In 1999, archaeological monitoring (Licence no. 99E0728: www.excavations.ie) was undertaken at a residential development site at Mullatine immediately to the south of the zone of archaeological potential for Rathangan. While no archaeological features were uncovered, 56 pottery sherds of were found; 25 were medieval (Leinster cooking ware and possibly locally made glazed and unglazed wares), one was a 17th century sherd from North Devon, with the remainder dating to the 18th/19th c. It was postulated that the pottery could have been introduced to the site from the adjoining medieval settlement in Rathangan (13).

As well as the individual sites and monuments associated with the medieval period deserted medieval settlements offer a tantalising insight to the siting and layout of Anglo Norman settlement activity. The abandoned settlements dating from the 13th century to 1550 AD consist of a group of houses that lie in close proximity with associated land plots, associated with a parish church and/or castle or tower house, often evident as earthworks.

The closest deserted medieval settlement is in Ballintine (KD018-025) c. 2.3km from Cloncumber cluster. It is visible on aerial photographs as a series of some half-dozen small rectangular enclosures covering a roughly rectangular area. Approximately c. 3.3km to the southeast of the Windmill cluster and c.2.4 km to the west of the Drehid-Hortland cluster is the deserted medieval settlement of Ardkill (KD008-008002). It lies on a very gentle south facing pasture slope, between the aforementioned tower house (KD008-008001) and bawn (KD008-008003) and a medieval church (KD008-009001) and graveyard (KD008-009002-). It comprises a large rectangular area (dims. L c. 250m NNW-SSE; Wth c. 100m) is partly subdivided by five, parallel, rectangular terraces separated by low scarps with sunken trackways (KD008-008004 KD008-008005).

To the North of the M4 to the east of Enfield is the deserted medieval settlement of Cloncurry (KD004-021/001-016) c.3.5km north-northeast of Drehid-Hortland cluster on a high ridge. A borough was established at Cloncurry in the thirteenth century on the site of an important pre-Norman church (KD004-021002). The Manor of Cloncurry comprised the following elements; an early church site (KD004-021002-), a motte (KD004-021003), an unclassified castle (KD004-021004), a medieval church (KD004-021005) and graveyard (KD004-021016), a friary site (KD004-021006), a cross-base (KD004-021007) and a hollow way (KD004-021008-/KD004-021009). Historical information, including a list of tenants, is recorded in an Extent (or inventory/survey) of the Manor of Cloncurry on November 8th, 1304 (O'Loan 1961, 1-23). Archaeological testing and excavation in advance of the Kinnegad-Enfield-Kilcock Motorway Scheme revealed evidence of possible medieval field boundary ditches (KD004-021013), possible medieval pits (KD004-021014) and a possible medieval building (KD004-021015-) in the area (13).

Over 4km to the south from the Cloncumber cluster there are the deserted settlements in Mullantine (KD017-011), Conlanstown (KD017-027) known locally as 'the town meadow and Rathangan (KD017-044).

Non-secular Activity

Once the manors were established manorial churches were founded within them, oftentimes found in association with a ruined early medieval church, however today the ruins of manorial church have been removed and all that remain are graveyards with some foundations to mark the sites.

Many of the ruined churches visible in the landscape today date from the medieval period (though they may have earlier foundations) and are notably often at some considerable distance from any modern settlement. Originally, some of these churches would have been associated with settlements, but the Reformation, 17th century religious wars and rural reorganisation under the subsequent estate system led to their abandonment (Aalen et al 1997). Presently, while many of the churches are ruined, the associated graveyards are sometimes maintained or are still in use for example at Ballynadrumny (KD003-019001), Kilpatrick (KD012-001), Ticknevin (KD012-012).

Over 1km to the northeast of Drehid-Hortland cluster is Dunfiirth church and graveyard (KD004-005001-003) and the site of a castle located at the Dunfiirth Cross Roads. The graveyard is enclosed by a stone wall and contains a medieval church (KD004-005001) with an early-19th century Hamilton burial vault 'Hamilton Mausoleum' which incorporates substantial parts of a mid-16th century Birmingham altar tomb and a collection of highly decorative carved stones (RPS B04-04) (13).

14.3.1.6 Sites of Unknown Date

Within a 5km radius of the wind farm there are site types i.e. mounds (8), enclosures (39), discussed in relation to ringforts above) and earthworks (15) which possess no diagnostic features which would allow for classification within another monument category. These sites are of unknown date and function and may date to any period from prehistory onwards.

14.3.1.7 Post Medieval Period

It is likely that the townland network was comparatively intact when the Anglo-Norman colonies arrived in the twelfth century. The earliest cartographic depiction of the north Kildare/south Meath area is Petty's Down Survey, c. 1656 which is subdivided into parishes and baronies, the map is pictorial in nature however some of the boundaries depicted are surprisingly accurate. It predominantly shows the larger houses and castle sites and also bridges and mills. The nature of the western borderlands especially persists on Taylor's 1773 map of Kildare where the 'islands' of settled land are depicted in the bogs. Lullymore (whose name *Laoilgheach* refers to a good grassy place for milch cows), the Island of Allen containing Allen Hill surrounded on all sides by bog linked to the 'mainland' by toghers. Examples of smaller islands were Lullybeg, Derrybrennan, Derrymillar, Drimaghan, Derrylea and Dowhery (29).

As new military technologies such as gunpowder rendered thick walls less effective as a form of defence, houses gradually became less defensive and more comfortable. Fortified houses replaced tower houses or were built as additions to tower houses, but less strongly fortified.

The Anglo-Norman masonry castle at Carbury (KD008-001002) was extended and incorporated into a large late-16th/17th century fortified house (KD008-001003) in the Jacobean style, with a base batter on the west, high chimney stacks and gables, and large transomed windows with hood mouldings. The upper floors of wood were carried on large granite corbels, most of which have fallen out. The site of the main entrance is not identifiable, although there was an entrance on the southern front, onto which an avenue opens, leading to the summit of Carbury Hill. The building is overgrown, with much collapsed rubble masking the interior. Extending to the east, south and west of Carbury castle are low, grassed-over earthworks covering a large rectangular area, representing the probable remains of an extensive designed landscape (KD008-001004), including rectangular gardens and an avenue leading south southwest from the castle and orientated towards the summit of Carbury Hill (OD 407 feet).

Overlooked by the castle to the north is the graveyard of Carbury (KD008-001006). The graveyard is a rectangular area enclosed by a mortared stone wall with entrance gate at the southeast corner. It contains the remains of a church (KD008-001005) and a mortuary chapel (KD008-001007, a National Monument) at its centre, and legible burial markers (table-tombs and headstones) date from the 18th to the 20th Century. Only the west gable wall of a possibly parish church survives. It is built of well-dressed, coursed limestone blocks, under a heavy, concrete-like render. A plaque (KD008-001010), dated 1705, commemorating members of the Colley family is mounted on the inner wall face to south of the doorway. The gable carries a small round-arched bellcote, built of ashlar and is probably a later addition.

The east end of the church is occupied by a large 18th century mausoleum (KD008-001007) containing a further two plaques (KD008-001008 and KD008-001009) commemorating Colley family members several generations of which resided at Carbury.

There is a suggestion that a trackway once ran through the southern end of the bog at Carbury at Knockcur townland, along the line of the existing north–south running road to the east of the wind farm. In c.1629 Geoffrey Keating described the northern boundary of Co Kildare with Co Meath as:

'running from Dublin to the Abhainn Ríge [the River Rye that enters the Liffey at Leixlip after flowing through Kilcock, Maynooth and Carton] westward to Cluain Conrach [Cloncurry] (and on to) the Ford of the French Mill — to Clonard ... to the Tocher of Carbury .. to the Crannoch Geishille (Geashill)'. (25)

Before the existing road was constructed in the 19th century there seems to have always been a passage or causeway over the bog, chiefly for travellers on foot the approach from the north to the castle of Carbury. This passage or causeway through the bog of Knockcur was called the 'Tocher of Carbury' (25).

In the Coillte-owned Donedea Forest Park within formerly the Aylmer family demesne land which the family held from the 15th century up until the 20th century (39). A fortified house (KD009-015002) incorporated into a 15th century tower house (KD009-015001-) was 'destroyed' in 1641, subsequently rebuilt, extended in the 18th century, and further remodelled in the 19th century, with the addition of a bowed centre by Richard Morrison (13). . Also within the demesne is a graveyard possibly occupying the site of an Early Christian church (KD009-014002), the graveyard also contains an early-17th century church (KD009-014001), a 19th century Church of Ireland church which houses a fine 17th century Aylmer effigial tomb (KD009-014003) and an octagonal font (KD009-014005), while a second font (KD009-014006) lies nearby outside.

14.3.1.8 Built/architectural heritage environment

With the ending of the Williamite Wars in the late seventeenth century, Ireland entered a new era of relative political calm, from 1641 until the Rebellion of 1798 there were few dramatic events and almost a century of peace (40). Without concern for defence landowners commenced the building of new mansions and an era of experimentation of new architectural styles and larger, more comfortable houses became the norm. This is exemplified by the construction of Newberry Hall (RPS B08-10), a demesne immediately to the southeast of the village of Carbury and to the south of Carbury Hill (located c.3.8km to the southwest of Windmill cluster and c.7km to the northeast of the Drehid-Hortland cluster). It was the seat of Arthur Pomeroy of who later became Viscount Harberton, he obtained the lands of Newberry through marriage to Mary Colley in 1747. The Colleys were residing in Carbury Castle at the time and the new family seat was built in Newberry in the 1760s and Carbury castle subsequently fell to ruin. Newberry Hall (spelt also as Newbury) was designed by Nathaniel Clements (45) who adopted the style and composition of the neo-Palladian villa-style house already seen in grander form the County at Castletown and Carton. It is a Palladian country house of a middle size, comprising a 3- bay 2- storey over basement rectangular central block containing the principal rooms, the entrance façade has a pedimented breakfront and a Diocletian window above tripartite fan-lighted doorway (the rear garden façade has an attic storey). The main house is linked by curved screen walls with round-headed rusticated doors and windows to two two-storey pavilions, each with a single bay either side of a three-sided bow (41), these would have housed the kitchens, offices and stables. It is constructed of red brick with limestone cills, architraves steps and cornices. The Re-alignment of the R402 Regional Road required removing the original demesne boundary and lodge to Newberry Hall but the demesne is for the most part intact. There is, as suggested above an historical link and also a visual between the house and Carbury Castle which lies to the north-northeast.

From the eighteenth century onwards the landscape of County Kildare has a rich and varied heritage of historic buildings ranging from grand estate houses such to more common mid-sized country houses and vernacular architecture (42). In the study area there are several middle size farm holdings or country houses in the area, with ranges of stone farm outbuildings with grounds and settings that form an intrinsic element of their character. These houses would have been occupied by prosperous farmers, manufacturers (e.g. millers) and traders. The majority developed in the 19th century as the dwellings of strong farmers or successful traders. These properties lay somewhere between the seats of the gentry and the simpler vernacular buildings of the rural tradition. The architectural character in the vicinity of the proposed wind farm has examples of Georgian (c. 1720–1840) and Victorian (1890–1918) residences of this size.

The first wave of mid-sized houses and their associated gardens, parkland and structures (including outbuildings, entranceways and lodges) occurred in the eighteenth century where they were concentrated in the more fertile areas of the study area on the high ground surrounding the bogs, they included Metcalfe Park (RPS B04-17) c.1720, Kilglass House (RPS B03-08) c.1725 both associated with mills and Ballinderry House (RPS B03-05) c.1760 which are early examples of the houses of the prosperous industrial class that survive in the area.

Attributed also to the aforementioned Nathaniel Clements is Williamstown House (RPS B03-06), an 18th Century Palladian house dating to 1760 and set in a 700-acre estate (located c. 1.2km to the west of Windmill cluster). It is a 2-storey; it has a 3-bay front a Venetian window above a tripartite doorway. It was the seat of the Williams family (41).

Hortland House which is now demolished was designed by Richard Castle and was built in 1748 for Archbishop Hort.

Later house that lie within 2km of the clusters include such as Balrennet (RPS B03-09), Coolayna House (RPS B08-27), Teelough House (RPS B08-26) and The Haggard (RPS B08-25) and Newpark House (RPS B09-09) and Kilmore House (RPS B03-11).

Later mid nineteenth century houses within 2km of the clusters include Knockanally House (RPS B04-10) and golf course is located to the northeast of the wind farm. The rebuilt Ballina (Ballyna) House, Bushfield House (RPS B17-09,11901704) c. 1860, Feighcullen House (RPS B17-10) c.1830 and Feighcullen Glebe House (RPS B17-11) c.1830.

In his Statistical Survey of the County of Kildare (1807) (43), Thomas Rawson described the typical farmyard complex in Kildare as:

'farmhouses in general consist of a long thatched building of one storey, containing a large kitchen and fireplace in the centre, and lodging rooms at either end; the front door looks to the bards and stables at the right, behind is the haggard and on the left side are placed the cow and bullock houses'

He classifies four rural house types, a Gentleman's residence (Class 1), larger farmhouses (Class 2), smaller farmhouses (Class 3) and cabins of the very poor (Class 4, of which little survives today in the county due to the improvements in housing conditions in the mid-19th century). Many thatched roofs have now been replaced with tin, the majority of structures are one room deep and white washed. They are difficult to date but surviving examples appear to date mainly between 1750 and 1850. There is a single storey 3-bay thatched vernacular cottage in Ballynakill (Ch4) along the road that divides the Ballynakill cluster.

14.3.1.9 Industrial Heritage

Industrial heritage consists primarily of sites and structures associated with transportation, communications, manufacturing (milling), public utilities, and materials extraction, but can also refer to archaeological sites and objects which demonstrate early evidence of industry such as metal working, or mining. Industrial heritage play an important role in the county and within the Maighne study area with canals, railways, mills and forges making a strong contribution to the character and building style of a place.

The first decades of the nineteenth century were distinguished by a period of marked economic expansion as the economy prospered during the Napoleonic Wars, during which Britain relied on Ireland for agricultural and grain supplies. Wheat became a significant cash crop in Ireland from the 1750s onwards and to capitalise on it, many landowners and entrepreneurial business men around the country erected flour mills in the later 1700s and early 1800s. This led to a boom in the milling industry in Ireland in the 18th and 19th centuries and was aided by the new transport links opened up by the Grand Canal and the railway. Mills recorded in the RPS / NIAH include Ballyonan Corn Mill (RPS B01-02), Pluckerstown Corn Mill (former) (RPS B17-17). There were windmills at Johnstown Bridge (RPS B04-13) and Dreenan (RPS B08-12) which are now in ruins and the 'site of' windmills in Windmill townland and in Hortland.

Historically the study area became industrialised with the advent of the canals. Both the Royal and the Grand Canals, which extend westwards across the country and connect Dublin with the Shannon, Erne and other waterways, pass through the county of Kildare (44), and helped sustain urban and industrial growth in 18th century Kildare. The Grand Canal began construction in 1756, following the passing of an Act in 1715, proposing a link between Dublin and the Rivers Shannon and Barrow.

Interest waned, until 1755, when Thomas Omer, an engineer was finally appointed to the project. The building of the canal caused a major change to the landscape. The Royal Canal was built early in the nineteenth century after overcoming many difficulties in its construction. It was completed in 1817. Commercially the canal was not as successful as its originators had envisaged. The largest tonnage carried was for the year 1847, when 112,181 tons were carried, which figure compares with a total of 285,601 tons for the Grand Canal in the same year (45). The canal now functions as an amenity.

A number of structures such as bridges and structures associated with the Grand and Royal Canals are located to the north and south of Maighne Wind Farm and form an integral part of the character of the area and valuable features of an architectural, industrial and technical interest.

There are nine protected canal bridges within 3km of the study area include two along the Royal Canal Main Line, Kilmore Bridge (RPS B03-16) and Moyvally Canal Bridge (RPS B03-15); three Grand Canal Main Line bridges Ticknevin/Unrill (RPS B08-23), Shea Bridge (RPS B12-02), Bond Bridge (RPS B13-42) and the feeder canal bridges on the Grand Canal Barrow Line namely Huband Bridge /Greene's Bridge, (RPS B13-25), Ford Bridge (RPS B13-43) and Glenaree Bridge and Lock 22 (RPS B17-16) and also the Pim Bridge (RPS B18-23) on the Grand Canal Milltown Feeder.

In 1845 the Royal Canal was sold to the Midland Great Western Railway (MGWR) Company, who intended to construct a railway line to Mullingar and the west of Ireland alongside the waterway. The advent of the railway sounded the death knell of the canal and trade continued to decline. By 1922 the annual tonnage carried on the canal had fallen to 4,864 tons and the number of trading boats had been reduced to thirteen. During the Second World War there was a brief revival of traffic to supply Dublin with turf from the Midland bogs, but the revival was short lived and by 1946 only two boats still supplied the canal. The Royal Canal was officially closed to navigation on 6th April 1961 (1). The main line of the MGWR ran from Dublin to Galway and opened in 1847, passed through several towns in Kildare, including Leixlip, Maynooth, Kilcock and Moyvally (44).

Protected road bridges crossing rivers include Leinster Bridge (RPS B01-03), Fear English Bridge (RPS B04-24), Johnstown Bridge (RPS B04-25) and Agar Bridge (RPS B17-15). There are also two unusual foot bridges over the over Slate River (formerly mass path) in Drumsru (Connell By) (RPS B17-05A and B17-05B) within the Cloncumber cluster land parcel.

According to the Kildare Industrial Archaeological Heritage Survey (KDIAHS) the establishment of the canal system was also responsible for the development of one of the dominant industries in this relatively un-industrial part of the county, namely large-scale peat working and extraction. The canal played a dual role in this respect, as it enabled the drainage of large areas of bog while simultaneously acting as a transport network linking these with road and rail networks and urban markets. The working and processing of peat was one of the most important industries in the northwest of Kildare. Although peat working was for the most part un-mechanised (46), and relatively small in scale prior to the foundation of Bord na Móna in 1946, it was an important employer and since then the industry has had a huge impact in this region. According to the KDIAHS the heightened importance of peat-working in this part of the county also reflects the historical failure of other forms of industrial endeavour in the region (e.g. the collapse of Prosperous as a textile centre), despite the opportunities provided by the improvements in transport infrastructure during the industrial period (44).

The most extensive complex of bog-workings in Kildare is the late 20th century Bord na Móna Ballydermot/Timahoe Group of Bogs. This comprises two bog groups linked by railway to the ESB Allenwood Power Station and CECA Allenwood Carbon Factory. To the north were the Timahoe works and bog railway, and to the west were the Ballydermot and Lullymore works and bog railway. This western group was also connected up to the Bord na Móna Lullymore Peat Briquette Factory.

In the in the 1950's new housing schemes were established to serve the turf development programme where peat a notable settlement is Coill Dubh or Blackwood (c. 5km to the southeast of Timahoe) was established in the in this replaced earlier temporary camps at Mucklon and Timahoe.

14.3.2 Maighne Wind Farm cluster baselines

14.3.2.1 Ballynakill Cluster

Introduction

The proposed Ballynakill cluster lies south of the Kildare/ Meath county border, located in low-lying agricultural lands between the Blackwater River to the east and the River Boyne to the west. It is located in an area to the north of the R148 (and the M4 Motorway) which is bound by the Royal Canal to the north and east and by the R160 and a local road which form the western boundary of the lands. Two of the turbines lie in County Meath in the townland of Boolykeagh. To the north (c.2km) is the town of Longwood, to the west (c.3km) the village of Clonard which has early medieval origins, to the east the former railway settlement of Moyvally (c. 1km) and to the south the village of Broadford (c.1.3km). The site terrain is predominantly flat and gently undulating glacial topography that is quite low-lying, in the region of 70mOD falling away to the south, it comprises irregular shaped fields of pasture of various sizes.

There are 10 turbines, their associated access tracks and cable routes, two barrow pits and a compound proposed for the Ballynakill cluster (Fig. 14.4).

Stray Finds

There is one stray find recorded in the study area, a rotary quern which indicates early medieval or medieval activity in the area.

Table 14.12: Topographical Files Ballynakill Cluster

Reg. No.	Townland	Description
2005: 31 (IA/171/2004)	Ballynakill	Quern stone, upper part of rotary quern found during ploughing. Granite, circular in plan with a circular perforation. The stone is plano-convex in profile; the thickest area of the stone is around the perforation. A concentric circle formed of light pocking is visible encircling the perforation but it has not been completed. Some scratches are visible. D. 50 T. 10cm.

Townland Names

With the exception of Royal Oak townland names all the townlands in the proposed cluster are Irish in origin, albeit in anglicised form, they describe the natural landform or land use in the area.

Table 14.13: Toponyms- Placename meanings (townlands) within the Ballynakill cluster

Townland	Origin	Translation	Meaning and notes of interest
Ballynadrumny	Irish	<i>Baile na Drumfinne</i>	From druumne, meaning back or elevation/ridge/hill. Joyce (III, 110) has Baile na Drumne, town of the little ridges.
Ballynakill	Irish	Maybe derived from <i>Baile na cille</i> /perhaps <i>Baile na Coille</i>	The 'kill' element may refer to the town of a church or indeed of a wood.
Ballyonan	Irish	<i>Baile Uí Eoghanaín</i>	'O'Honan's town'
Boolykeagh, Co. Meath	Irish	<i>na Buaille Caoiche</i>	<i>Buaille meaning</i> - cattle-fold, summer-pasture.
Calf Field	Irish	<i>Gort an Chalbraighe</i>	Field of the calf Referred to as 'Calfesland' in 1654. It sometimes appears as 'Caulfield' and if so, may simply refer to a family name.
Moyvally	Irish	<i>Maigh Bhealaigh</i>	Plain of the road or pass O'Donovan: "...the Black Bog is in the West, site of a castle, Moyvally Village..."
Royaloak	English	N/a	Presumably 'royal oak'. No indication otherwise in OS notes & no information on derivation.

Field Inspection

Access to Turbines T1–10 is proposed to run from the R148 to the south (Fig. 14.4). Turbine T1 is located in a field of low-lying, poorly drained and gently undulating pasture. It is quite reedy with the exception of a natural dry knoll in the northwest part of the field. The south western boundary of the field represents the county border and townland boundary between Boolykeagh and Ballynakill (CH5); it comprises a shallow dry ditch with mature trees and hedgerow along it (Illus. 14.1). The historic mapping shows that these fields were once further subdivided. The townland name, Boolykeagh suggests that seasonal grazing was carried out on the lands – perhaps relating to the flooding of the Boyne and seasonal availability of the lands prior to it being drained, the first edition map suggests that the lands were once wetter than they are today.

Turbine T2, also in Boolykeagh is located in a large irregular shaped field of low-lying pasture which undulates generally in the south being quite level in the north. Within this field is a north–south oriented gravel ridge that runs approximately 234m in length and is slightly curving. It is likely to be an isolated esker ridge. In general it measures c. 2m high, c. 6m wide and is flat topped (Illus. 14.2 & 14.3) (CH1). It has been breached along its length by animal traffic and localised quarrying. Turbine T2 is located at the eastern end of this ridge and the proposed access track avoids it. Gravel ridges such as these have an inherent archaeological potential particularly for prehistoric burials as they are easily excavated. This linear feature runs almost parallel to the eastern field boundary shown on the 1st edition OS map. A small complex of structures is also depicted on the map at its northern end, these are no longer present. A proposed barrow pit is located to the east of this ridge in this field and the neighbouring field to the east.

Turbine T3 is located in a large field of undulating pasture in Calf Field townland, it is currently accessed via an existing path associated with a large farm complex off the R160; the farm comprises large open fields of undulating pasture. At the farm complex (c. 490m to the southwest of T3) there the site of a castle recorded on the Sites and Monuments and Records Map (KD001-007) (Illus. 14.2). As discussed above the exact location of this site is ‘unknown’, the paper maps place it in Calf Field townland, following current local tradition. There is no evidence suggesting a castle in the farm yard. On the Down Survey map (1656) there is no castle indicated in the area of Calf field however there is a structure shown in Calf field in Noble and Keenans Map of 1752 (Illus. 14.3) which is located in proximity to the road.

The access track from T3 to T2 and T6 crosses two small fields of rough pasture on a small gravel ridge through the townland boundaries of Calf Field, Ballynadrumny and Moyvally through an area that is already highly disturbed.

Turbine T6 in Moyvally townland is located in a domed field of pasture with deep drainage ditches draining the field. This field was further subdivided on the first edition map. On aerial photography c. 55m south southeast of the turbine location there is a very faint cropmark (CH2), it comprises a sub-circular enclosure (measuring c. 28m on its long access northeast- southwest by 23m) with a smaller circular enclosure (c. 11m) or annex adjoining it to the southwest (Illus. 14.4). This feature is considered to be of archaeological potential. There are other cropmarks in the field however these relate to former nineteenth century field systems that are shown on the Ordnance Survey Maps.

Turbines T7–T10 are located in the townland of Moyvally in large irregular shaped fields of pasture. The historic mapping shows that these were once a very small patchwork of fields that were interspersed with farm dwellings that were accessed via long laneways. The landscape depicted on the 1st edition OS map 1837-8 show that this general area was more populous than that on the revised 1911 OS map, with additional roads and structures, particularly in the eastern half of the site.

Turbine T7 is located at the northern end of a field of very gently undulating pasture. In the southwestern corner of the field in an overgrown area is the ruin of a single storey, 4- bay vernacular cottage that is constructed of rendered mud walls hipped corrugated roof that was probably originally thatched (CH3, Illus. 14.5). Much of its original features are retained inside. The proposed access track runs immediately north of the structure. Access to T6 from T7 is via an undulating field of pasture subdivided by hedgerow with intermittent mature trees.

Turbine T8 is located in a field adjacent to the railway and the canal; it is in a large field overgrown with thistle, there is no ground surface visibility, the field appears generally level and there is a damp low-lying area towards its centre. It is hummocky under foot with remnants of a former field boundary surviving. On the historic OS mapping this field is further subdivided. The access track to T8 is through level pasture. It is bound to the south by an enclosed carriage-wide access track aligned with trees and hedgerow; it is present on the historic OS maps and provided access to farms that were once present here.

Turbine T10 lies in a field of generally level pasture full of thistle, there was no ground surface visibility, but gentle undulations could be made in the field similar to the topography of the surrounding fields.

Turbine T9 is located in a field of undulating pasture, at the northern end the field slopes down to a level lands parallel to the remnants of a former access track to a farmyard and buildings to the northeast which are no longer present. The access track to turbine T9 runs through a long field of pasture; the field is shown to have been under bogland in the first edition OS Map and would be the type of landscape suitable for sites such as *fulacht fiadh*. There is a low knoll and the end of a ridge in the southeastern corner of a field that slopes to the north.

There is a thatched cottage on the R160 local road in Moyvally townland. It comprises a single storey, single-span 3-bay, hipped roofed structure with a shallow porch projection (Ch4, Illus. 14.6), with small timber sash windows. It is in excellent condition and is representative of the vernacular tradition in Ireland. Cartographic sources show that a linear outbuilding was once located perpendicular to the structure. There is a modern shed to the rear and a modern residence immediately adjacent; there are no views out to the surrounding landscape. There is a mix of modern residences and agricultural structures along this road and this structure adds an historical dimension. The extent of the setting which contributes to the significance of the vernacular structure is considered not to extend much beyond to be its immediate environs and its road side position. The R160 divides the Ballynakill cluster between turbines T1-10 and T4 and T5 in Ballynakill townland, the cottage is c.800m from T3 and 726m from T4.

Turbines T5 and T4 are located in the townlands of Ballyonan and Ballynakill. The proposed access track runs along a field boundary of mature trees and hedgerow in a field of flat pastureland, then through a field of rough gently sloping pasture on the edge/lower slopes of a natural ridge. Turbine T5 is located in a field of rough pasture that is hummocky underfoot and is slightly damp. The field boundaries comprise banks and dry ditches with mature trees and hedgerow.

The access track to turbine T4 from T5 continues through level hummocky fields of pasture with no ground surface visibility, it then crosses a large drain and hedgerow linear boundary (which forms the straight townland boundary between Ballyonan and Ballynakill, CH6), into a field of hummocky rough pasture where the land slopes down to the north northeast and then becomes level. Turbine T4 is located in a field of rough grazing pasture that slopes down to a curving convex field boundary to the south comprising a mature hedgerow and low bank and ditch. The access track continues along a drainage ditch to the north.

To follow in Table 14.14 is a summary inventory of the features identified in the Ballynakill cluster:

Table 14.14: Cultural Heritage/Archaeological features identified during field work (Fig. 14.4)

CH. No.	Townland	Description	Location (ITM)	Location (ITM)	Distance
CH1	Boolykeagh	Gravel ridge	669983 to 669946	744063 to 744291	Adjacent to T2
CH2	Moyvally	Cropmark	670128	743834	c. 55m SSE of T6
CH3	Moyvally	Vernacular structure in ruins	670755	743747	Immediately adjacent to access road between T7 and T8
CH4	Ballynakill	Thatched cottage	668858	744009	c.783m NE of T4, 791m NE of T3, 801m NE of T1 and
CH5	Booleykeagh/Moyvally	Townland boundary	670004	744059	Access road between T2 & T6
CH6	Ballyonan/Ballynakill	Townland boundary	668229	743533	Access road between T4 & T5

Recorded archaeological Monuments

There are no recorded archaeological monuments (RMP sites) within in the proposed Ballynakill cluster land parcel (Fig. 14.4). There are however several RMP sites within a 1km and 1-2km radius of the site (Table 14.15 below).

Sites within 1km include the 'site of' a castle in Moyvally (KD001-005). There is no visible surface trace of the monument. It was originally sited on a hillock in a gently undulating field of pasture possibly to preside over it. Hachuring on the first edition OS map (1838) suggests that it comprised an elongated structure orientated northwest-southeast and was accessed via a road out of the then small village of Moyvally. It lies within a modern field system, a modern residence, farm buildings and farm access track has been constructed to the south and northwest of the hillock and the railway line and canal lies to the east. The significance of this site lies primarily in its archaeological and historical interest i.e. in the potential subsurface archaeological deposits which could provide valuable information on the nature of Anglo Normal society and economy this area. There is no intervisibility between this site and other similar or possibly related sites in the landscape. The character of the existing setting however provides a limited contribution to the significance of the site.

Also within 1km of the cluster is an enclosure site (KD001-010) in Moyvally, it has no visible surface trace having been identified only through aerial photography. The site lies to the east of the Canal and Railway; whilst its form and function is unknown its significance lies in the archaeological information that can be garnered from the site. This site lies within a modern field system in an environment that has been altered greatly since the advent of the canal and the railway in the area. The existing setting provides a limited contribution to its significance.

The nearest upstanding recorded monument is a moated site (KD001-004) in Moyvally townland. It is sited in a pasture field on the western side of the River Blackwater. Moated sites are fortified residences/farmsteads of the Anglo Norman Period had a functional relationship with the lands surrounding them. The site is located in improved pasture on an east facing slope, it has a densely overgrown perimeter, and its western edge is incorporated to a field boundary. There is another overgrown moated site (ME047-013) 1.3km the southeast of the site on the eastern side of the river and both sites are likely to have been related though they are not presently inter-visible. The field immediately surrounding the site contain evidence of associated field systems which can be seen as soil marks in aerial photography. The overgrown nature of the site provides limited distant views, any former sightlines that the site would have had in the surrounding landscape are no longer legible. The fields that immediately surround the site, its relationship to the River Blackwater to the east and potential link to the moated site to the southeast are important aspects to the setting of this site. The moated site is located to the east of the cluster and on the eastern side of the railway line and the Grand Canal, it is c.701m east of T8 the nearest turbine.

The nearest publically accessible site is the medieval church site and graveyard in Ballynadrumny (KD001-019001-003). The site is located on a natural hillock. It comprises a D-shaped graveyard that is defined by a rubble stone wall; it contains the ruins of a rectangular medieval church at the centre, in which there are three late medieval graveslabs. The graveyard which is still in use contains various cut-stone grave markers from the 18th-20th centuries. The site is located within a highly altered landscape, it lies between the former N4 to the north, the M4 to the south and to the east of a realigned link road between the two (Illus. 14.7). There is a 19th century farm yard with a modern shed immediately to the north and fields of rough pasture to the east and south (Illus. 14.8). The views out from the site to the northeast and north are of the adjacent structures and vegetation which screen any clear views that might have existed into the distant landscape, views to the east are screened by large trees within the graveyard, the most general views are to the southeast, south and west where the landscape falls away, these views comprise dense tree lined boundaries of the distant fields, within it the M4 is partially screened from view. The site is of archaeological, architectural, artistic and historic interest, attesting to the long-standing ecclesiastical presence in the area. Its siting on a hillock is significant as it would have provided views out into the surrounding landscape and would have been a once dominant feature in the landscape, its relationship to the road to the north (R148) leading to Clonard is also noteworthy in this regard as it was one of many ecclesiastical sites along the ancient highway of the Esker Riada. The church and graveyard is located c. 1km to the south of the cluster.

Table 14.15: Record of Monuments and Places within 1km and within 1-2km of the Ballynakill cluster (Fig. 14.4)

RMP Reg. No.	Townland	Description	Location (ITM)	Location (ITM)	Turbines within 1km	Turbines within 1-2 km
KD001-010	Moyvally	Enclosure	671305	744264	700m NE of T7, 647m N of T8,	1.8km E of T1, 1.3km E of T2, 1.7km NE of T3, 1.1km NE of T6, 1km NE of T9, 1km NE of T10
KD001-004	Moyvally	Moated site	671916	743613	701m E of T8,	1km NE of T10, 1.3km E of T9, 1.7km ENE of T6
KD001-005	Moyvally	Castle - unclassified	671715	742905	804m SE of T10, 882m SE of T8	1.3km SE of T9, 1.4km SSE of T7, 1.8km SE of T6
KD001-019/ 001-003	Ballynadrumny	Church, graveyard and graveslabs	669200	742469	1km SE of T4	1.6km SE of T5, 1.4km SW of T3, 1.9km SW of T2, 1.6km SW of T6, 1.6km SW of T9, 1.9km SW of T10
ME047-010	Boolykeagh	Field system	669626	745544	N/a	1.4km NNE of T1,
ME041-018	Moneymore	Mound	669743	746396	N/a	1.9km NNE of T1
ME047-014	Middleborough	Burial ground	670331	745547	N/a	1.3km NE of T1, 1.3km NE of T2, 1.8km NE of T3, 1.7km N of T6, 1.7km NNW of T7
ME047-011	Clonguiffin	Ringfort - rath	672114	744564	N/a	1.5km NE of T7, 1.9km NE of T9, 1.3km NE of T6, 1.7km NE of T10
ME047-012	Clonguiffin	Field system	672615	744454	N/a	1.9km NE of T7, 1.6km NE of T8, 1.2km NE of T10
ME047-019	Clonguiffin	Burial	672992	744422	N/a	1.9km NE of T8,
ME047-013	Ballinderry	Moated site	672955	742725	N/a	1.9km SE of T8, 2km SE of T10
KD003-029	Moyvally	Hearth	671804	742161	N/a	1.8km SE of T9, 1.6km SE of T8, 1.4km SE of T10
KD003-030	Moyvally	Excavation - miscellaneous	672141	741967	N/a	1.6km SE of T8, 1.7km SE of

RMP Reg. No.	Townland	Description	Location (ITM)	Location (ITM)	Turbines within 1km	Turbines within 1-2 km
						T10
KD001-013	Kilrathmurry	Metalworking site	666039	742814	N/a	2km SW of T5
KD001-009	Clonard New	Mound	666646	743585	N/a	1.4km W of T5, 1.9km W of T4
KD001-012	Clonard New	Road - road/trackway	666636	743694	N/a	1.3km W of T5, 1.9km W of T4
ME047-009	Mulphedder	Barrow - mound barrow	666333	744401	N/a	1.9km NW of T5
KD001-002	Ballynakill	Ringfort - rath	668058	744633	N/a	1.4km W of T1, 1.9km W of T2, 1.7km NNW of T3, 1.4km NNW of T4, 1.3km N of T5
KD001-007	Calf Field	Site of a Castle (exact location unknown)	Record only	Record only	Unknown	Unknown

Protected Structures

The Ballynakill cluster will have no direct impact on any Record of Protected Structures (RPS) sites, National Inventory of Architectural Heritage (NIAH) sites, historic structures or on any Architectural Conservation Areas' (ACA) (47). There are no protected structures within the cluster land parcel. There are several protected structures relating to the industrial (railway and canal), social and domestic activity in proximity to the wind farm.

The late eighteenth century Royal Canal travels in an east-west direction along the eastern boundary of the cluster (Illus. 14.9). Just over 500m north of T1 is a Royal Canal Main Line canal bridge, (RPS B03-15), just to the east of this is the canal workers house (RPS MH047-204, Illus. 14.10) built in c.1795 and further north is the Boyne Aqueduct (RPS MH047-201), a triple-arch ashlar limestone bridge, carrying the canal over a river, also built in c.1795. These are one of a group of bridges and structures along the section of that canal that passes through County Kildare. Parallel to the canal is the nineteenth century railway infrastructure the mid-19th century Midland Great Railway; this is the main Dublin-Galway railway line, passing through the northern part of Kildare, part of Leixlip, Kilcock, Kilbrook Ballast Pit and Moyvally line. Adjacent to the canal aqueduct there is a Boyne railway Viaduct (RPS MH047-200) and the railway Bridge (railway) (RPS MH047-202), one of many that span the section of the Railway line that cuts through County Kildare (Illus. 14.11).

Other industrial features include a further canal bridge (RPS B03-15, Illus. 14.12) Moyvally Bridge is a complex road bridge to bridge the canal, its original construction dates to c.1810; it was modified and extended in order to facilitate bridging of railway line in c.1850. A later but related feature is J. Furey's, a pub & house dating to the c.1920's (RPS B03-14, Illus. 14.13) located in Moyvally to north of the busy M4.

The significance of the canal and railway features lie in their group value, they form an interesting group of architectural technical industrial structures that run side by side and provide a social and industrial character to the area. They represent feats of engineering of the 18th and the 19th century and were clearly the work of skilled workmen and masons, with the canal bridges in particular being executed with high quality masonry workmanship. The features create a surprising and dramatic group in the otherwise rural landscape. When constructed, the canal and railway corridors were driven through the rural landscape and had little regard to the surrounding environment (unless there were features along the routes that had to be crossed such as rivers, bogs or topographical features). The wider landscape setting of these industrial features contribute little to their significance, the sites are best appreciated and understood in close proximity and include the linear structures themselves, their associated features including structures, tow paths etc., the views of the structures on approach roads to river and bridge crossings and access roads.

The closest protected structure that is not associated with linear infrastructure is the 19th century Ballyonan Corn Mill (RPS B01-02, Illus. 14.14) located the road side junction of the R148 at Bunglass adjacent to former River Glashna (now dry). The former water mill is described as a good example of a mid-19th-century industrial building in the region which was the focal point for local agricultural activities and a centre of employment in the past (48). It is a detached 5-bay 4-storey structure of rubble stone, that is set back from the road and is a prominent landmark on the roadside. The primary elevation composed of a massive wall mass pierced with small openings, revealing the utilitarian nature of the building that was required to be cool and damp proof. The mill buildings are partly overgrown. There is Mill symbol depicted on Taylor's map of 1783, located on stream to the south of road. The NIAH dates the present remains to c.1840, although probably pre-1837 as mill depicted here on 1st edition map and appears identical to that on 3rd edition (1907-09) it is possibly built on site of older, 18th century mill (44). The mill race for the site appears to continue southeast to Broadford and served another mill having a joint source.

The mill is of historical and social importance as the focal point for local agricultural activities and a centre of employment in the past. It is also representative of a type of industry that is no longer practised in this way and on this scale in Ireland. The mill has a rarity value as many of the small mills of this type are disappearing, particularly in rural areas and many original materials remain in situ. It is thought that the mill would have received corn from the lands in the vicinity of it and from further afield. The mill is a landmark feature on the roadside. It is surrounded by mature trees and has a two storey structure adjacent to it. Given its function and industrial use there is little to suggest that the setting of this site would extend into the broader landscape, the part of the setting that contributes to its significance comprises the mill structures, the adjoining house and outbuildings, the former watercourse to the south (the River Glashna) which fed the mill and its relationship to the road. The cluster is located to the east on the opposite side of the road with the nearest turbines being T5 at a distance of c. 877m and T4 at a distance of c.1.9km, the remaining turbines in the cluster are over 2km away.

There are no protected demesnes or country houses located with 1km of the proposed cluster. Within c. 2km of the cluster to the south of the new M4 motorway is Ballinderry House and the former Garrisker demesne and to the east of Ballina House.

Ballina (Ballyna) House, demesne and associated barn, Chapel and outbuildings are protected structures (RPS B03-12A-E, Illus. 14.15– 14.17) that form an integral part of a late nineteenth century estate. It is now the *Moyvalley Hotel and Golf Resort*. The house was designed by William Henry Byrne for the O'More family, is a very fine late nineteenth-century substantial country house that retains most of its original character - the house was built on the vaulted basement of an earlier house on site (destroyed by fire in 1878). It is a detached 3-bay 2-storey house over basement of Classical proportions with dormer attic, c.1880, incorporating basement of earlier house on site and retaining early fenestration with an advanced Ionic portico to centre ground floor, single-bay, 2-storey flanking canted bay windows, four-bay 2-storey side elevations to north-east and to south-west, and 3-bay 2-storey rear elevation to north-west having single-bay 3-storey pedimented breakfront. It has a Mansard roof with slate (gabled to dormer attic windows and to pediment). The house is complemented by a range of subsidiary estate outbuildings and structures. The demesne land has been altered significantly in recent times and developed into a golf resort. The facade of main house overlooks a golf course to the south, this was once open grazing parkland as shown on the first edition OS map (Illus. 14.18), its former beech lined entrance avenue from the south leading to the house is no longer present. The historic mapping shows that the demesne was enclosed by thick shelter belts of trees, with the axis of the house positioned to the southeast onto open parkland. It also shows that there was extensive woodland with paths/ woodland walks to the north that is now an open grassland area. A shelterbelt of mature trees and a garden area has been retained to the north of the house. The protected stables are located to the west of the main house and have been converted; a modern accommodation block has been developed adjacent to them. There are two access ways into the demesne from the west, a northern route that runs adjacent to the northern boundary and provides access to the front of the house it runs through an open green area that was formerly dense woodland.

The house is orientated towards the south and is surrounded to the rear by a shelterbelt of very tall mature trees; on approach to the house along the northern entrance avenue only glimpses of the roofline of the house can be seen through them, there is just one available view of the house towards the southeast along a new avenue through the trees revealing the axis to the rear entrance (north) of the house. The shelterbelt of trees around the main house ensures that it is quite distinct and separate from the new development to the west within the stable block. Within the shelter belt area there is a small private Chapel. The N4 bounds the demesne to the north and the new motorway overpass is located at its northwestern boundary (Illus. 14.19). The second entrance provides access to the converted stable blocks. The house is of social and historic interest, representing the central feature of a planned estate or demesne, which would have provided much employment in the locality, notably in the village of Moyvally. The house, outbuildings and grounds form an attractive feature in the locality have architectural heritage merit as a late nineteenth-century demesne. The setting of the site comprises the entire demesne and also includes the now scrub lands immediately to the south of the M4 which were historically associated with the demesne. The wider surrounding low-lying landscape does not contribute to the significance of the demesne; historically the demesne was hidden from view from the surrounding country side and had little visual interaction with it, the main protected structure remains screened from outside views. The cluster lies to the north of the demesne and to the north of the M4 and original N4, the nearest turbine in the cluster; turbine T10 is located 1.2km from the northern demesne boundary and 1.7km from curtilage of the main house.

Within the grounds of the former Garrisker House (now demolished) & Demesne is a surviving bell-tower, basement, and outbuildings (RPS B03-10) which are protected structures. A later house (built on the earlier structure) has a south facing aspect and the earlier outbuildings lie to the rear of this, to the north of this there are extensive farm buildings forming part of a modern farm complex (Illus. 4.18 and Illus. 4.19). The significance of the features lie in historical, technical and architectural heritage merit. It is likely that relict features associated with the former demesne still survive in the surrounding fields that were once associated with the original demesne. The part of the existing setting that contributes to the significance of the built heritage features does not extend much further than the structures themselves within the working farmyard complex. The cluster is located c.2km to the north beyond the M4.

Ballinderry House (RPS MH047-109- not to be confused with another house of the same name in Kildare) is a detached 5-bay, 2-storey over basement private dwelling with yard buildings arranged around a courtyard (48). The house is orientated to the south-southeast with views out in that direction of the fields associated with the property. It has a tree lined entrance avenue from the west. The outbuildings, and modern sheds to the rear (north) and is set within a well-defined plot of land that is well screened with mature trees to the west. The property is for the most part deliberately hidden from inward views. There is little to suggest that the setting of the house extends beyond the fields immediately surrounding it to the north, east and south. The cluster is located c. 2km to the east of the wind farm to the east of the canal, the railway and the river Blackwater.

Broadford is a small linear settlement to the south of the M4, the village comprises a mix of mid-19th century and modern structures. On the eastern side of the road is a nineteenth century 5-bay 2-storey rubble stone former school (RPS B03-13) dated to c.1830. It is a fine and imposing substantial building that forms a dominant feature in the historic core of the linear village of Broadford. The original use, and the prominent setting in the centre of the village, emphasise the social and historic significance of the school as one of the earliest surviving educational facilities in the locality. It is likely that settlement had an historical relationship with the former Garryisker Demesne. Further south along the road is the mid- 19th century Saint Mary's Catholic Church (RPS B03-17) dating c. 1865 (Illus. 14.22). It is a detached 6-bay double-height Gothic Revival Catholic church and is fine and imposing building that appears to retain most of its original form and character. The church is of social interest as the ecclesiastical centre for the Catholic population in the locality and, having been built through a system of voluntary contribution amongst the parish (ibid). The cluster is over 1.6km to the north (from the nearest turbine T5) and north of the existing N4. The element of the existing setting that assists in understanding the significance of these structures is their relationship with the adjacent structures and with the village itself.

Longwood (Meath) is a nineteenth century settlement. The approach roads into the town itself have a mix of later twentieth century and modern housing developments that radiate from the main street into the surrounding lands. Concentrated in and around the main street are nineteenth century 2- storey detached 3- bay and 4- bay houses with hipped slate roofs used as residences from c. 1860–1920's (RPS MH047-206, MH047-207, MH047-209, MH047-211, MH047-212 and MH047-213) and houses converted to commercial enterprises (RPS MH047-208), at the edge of the settlement are modern buildings. On the eastern side of the town is the modest St Mary's Catholic Church built 1841, and later Roman Catholic cemetery dating to c.1920 (RPS MH047-214 and MH047-215).

On the western approach road into Longwood is Kilglass House off the R160, it is a detached 3-bay 2-storey house, built c.1870, and it is orientated to the west (RPS MH047-206). Close to the road junction nearby there is an early Roman Catholic cemetery (RPS MH047-205) dated to c. 1725. A triangular Fair Green lies to the west and would form the western boundary of the town. The element of the setting that assists in providing an understanding of the built heritage of the town relates to the structures themselves, their presence along the streetscape and to the inter visibility and interrelationships between adjacent structures. There is no clear view of the surrounding rural environment from within the town. The cluster is located to the southwest of the settlement on the western side of the railway and the canal, over 1.6km away (from the nearest turbine T5).

The table below is an inventory of protected structures and NIAH sites within 1km radius and a 1-2km radius of the Ballynakill cluster. The measurements are taken from the turbines to the outer boundary of Demesnes or from the protected structure itself where it has no lands associated with it.

Table 14.16: RPS sites within 1km and 1-2km of the Ballynakill cluster (Fig. 14.4)

Reg. No.	Townland	Description	Location (NGR)		Turbines within 1km	Turbines within 1-2 km
RPS MH047-204, NIAH 14404702	Boolykeagh	Canal workers house.	269453	245053	562m N of T1, 958m NNW of T2	1.2km N of T3, 1.4km NNW of T6, 1.7km NNW of T7, 1.9km NNW of T9
RPS MH047-203, NIAH 14404703	Boolykeagh	Canal Bridge.	269390	245085	603m N of T1, 1km NNW of T2	1.2km N of T3, 1.4km NNW of T6, 1.7km NNW of T7, 1.9km NNW of T9
RPS MH047-202 14404706	Boolykeagh	Railway Bridge.	269453	245053	600m N of T1, 1km NNW of T2	1.5km N of T3, 1.7km NNW of T6,
RPS MH047-200, 14404705	Boolykeagh	Boyne Railway viaduct.	269193	245253	831m NWN of T1, 1km NNW of T2	1.5km N of T3, 1.7km NNW of T6,
RPS B01-02 NIAH 11900102	Ballyonan	Ballyonan Corn Mill.	267152	243367	877m W of T5	1.9km W of T4
RPS B01-01, also RMP KD001-002	Ballynakill	Ballynakill Rath	268129	244617	N/a	1.4km W of T1, 1.9km W of T2, 1.7km NNW of T3, 1.4km NNW of T4, 1.3km N of T5
RPS MH047-201, NIAH 14404704	Boolykeagh	Boyne Aqueduct	269368	245068	N/a	1.2km NNW of T1, 1.3km NNW of T2
RPS MH047-205, NIAH 14331001, also RMP ME047-014	Middleborough	Cemetery	270398	245521	N/a	1.3km NE of T1, 1.3km NE of T2, 1.8km NE of T3, 1.7km N of T6, 1.7km NNW of T7
MH047-109	Ballinderry	Country House	273303	273303	N/a	2.1km E of T8
Longwood Village						
RPS MH047-206, NIAH 14331002,	Middleborough	Kilglass House (Longwood) on the western outskirts	270547	245365	N/a	1.3km NE of T1, 1.2km NE of T2, 1.7km NE of T3, 1.4km N of T6, 1.7km NNW of T7, 1.87km N of

Reg. No.	Townland	Description	Location (NGR)		Turbines within 1km	Turbines within 1-2 km
						T9, 1.9km NNW of T8
RPS MH047-207, NIAH 14331004	Longwood	Garda Station (now boarded up)	271386	245459	N/a	From the closest RPS (MH047-027): 1.8km NE of T2, 1.96km NE of T6, 1.7km NE of T7, 1.8km NNE of T8,
RPS MH047-208,	Main Street north side,	Stoney's Inn (Public house)	271422	245494	N/a	
RPSMH047-209, NIAH 14331010	Main street north side,	Former Convent building (Commercial)	271476	245518	N/a	
RPS MH047-211, NIAH 14331005	Longwood	PJ Dargan	271494	245490	N/a	
RPS MH047-212, NIAH 14331009	Main Street north side,	Detached House	271499	245529	N/a	
RPS MH047-213, NIAH 14331006	Main Street south side,	PJ Dargan	271527	245505	N/a	
RPS MH047-214, NIAH 14331007	Longwood	St Mary's Catholic Church	271548	245487	N/a	
RPS MH047-215, NIAH 14331008	Longwood	St Mary's Cemetery	271647	245571	N/a	
RPS B03-14, NIAH 11900302	Moyvalley	J. Furey's	272091	242677	N/a	1.8km SE of T7, 1.2km SE of T8, 1.6km SE of T9, 1.2km SE of T10
RPS B03-15, NIAH 11900301	Moyvalley	Moyvalley Canal Bridge, Royal Canal Main Line	272064	242674	N/a	1.7km SE of T7, 1.2km SE of T8, 1.6km SE of T9, 1.2km SE of T10
RPS B03-12, NIAH 11900312 & RPS B03-12A-E, NIAH 11900313-18, KD-49-N-717414	Ballina	Ballina (Ballyna) House, Demesne Chapel, Stone Barn, Outbuildings	271791	241476	N/a	2km S of T9, 1.7km S of T10 (from curtilage of the main house), 1.2km S of T10, 1.6km S of T9, 1.6km S of T8 (from the N demesne boundary)
RPS B03-13, NIAH 11900306	Royaloak	Broadford School (former)	269155	242048	N/a	1.6km SE of T5, 1.3km SSE of T4, 1.8km SSW of T3, 2km SW of T9
RPS B03-17, NIAH 11900307	Garrisker	Saint Mary's Catholic Church	268982	241570	N/a	2km SE of T5, 1.7km SSE of T4
RPS B03-10, KD-49-N-683414	Garrisker	Bell Tower in grounds of Garrisker House & Demesne	268341	241434	N/a	1.7km SSE of T5, 1.7km SSW of T4 (from the curtilage of the house and farm)

Reg. No.	Townland	Description	Location (NGR)		Turbines within 1km	Turbines within 1-2 km
RPS B01-03/MH047-108, NIAH 11900101\1 4404701	Clonard New	Leinster Bridge, Co. Kildare	266551	243762	N/a	1.5km W of T5

14.3.2.2 Windmill Cluster

Introduction

The Windmill cluster is located within an industrially milled peat bog. It comprises three wind turbines, access tracks, cable routes (Fig 14.5).

The bog is surrounded by a dense shelterbelt of mature trees with the exception of the area of bog to the south which is an open virgin bog. Carbury Hill, which rises to 142m, is located c. 2km to the south of the cluster. The hill and the ruins of Carbury Castle located on its northern shoulder and church (a national monument, discussed further below), it is a prominent local landmark in an otherwise low-lying landscape. From the summit there are commanding views of the surrounding landscape. The bog surrounded by low-lying agricultural lands with intermittent low gravel ridges (which are being quarried). To the southeast are the low hills of Knockcor (121m OD and 123M OD) and Mylerstown (122m OD) and to the northeast Kilraney (119m OD) which is actively being quarried.

Stray Finds

In Ballinderry a wooden bog butter vessel was recorded in the National Museum of Ireland. Bog butter is a common find in Irish bogs and the practice of burying butter in bogs can date from the middle Iron Age to late Medieval periods. Sometimes, as with this example they are found with storage containers made of wood or of bark, cloth or animal hide. Suggestions have been made that they were votive offerings or simply placed in the bog as a means of preserving the butter (49) (50). There was also piece of bog butter found recently on the bog during milling operations (Illus. 14.23).

Table 14.17: Topographical Files Windmill Cluster

Reg. No.	Townland	Description
1996:35:00	Ballinderry	1996:35- Vessel, wooden container for bog butter. Vessel now desiccated, warped and in numerous fragments. Originally carved from a single piece of wood with a separate base set into a v-shaped croze. Circular in plan the sides are vertical. Parts of a projecting handle rising from the rim survive, one of a pair. This has a pointed top and an oval transverse perforation. One projecting lug survives which was located near the base of the vessel. Two portions of the lid survive one of which bears a rectangular slot along its edge to accommodate the projecting handle. The vessel contained butter (1996-36), found in a bog at depth of 3m. Height 34.0cm D29.5, lug 8x 2.5cm.

Townland Names

The townland names within the Windmill cluster are anglicised versions of Irish names and were recorded as early as the 16th century.

Table 14.18: Toponyms- Placename meanings (townlands) within the Windmill cluster

Townland	Origin	Translation	Meaning and notes of interest
Ballinderry	Irish	Baile an doire	Town of the oak wood
Nurney	Irish	<i>An Urnaidhe?</i>	Saint's name The townland name may be an anglicisation of the Irish <i>An Urnaidhe</i> , referring to an oratory.

Other townlands located adjacent to the wind farm include Fearavolla, to the south, which may be derived from *Fiar a bhalla* meaning the ley-field of the wall. Also to the south is Haggard, an Anglo-Irish word for hay-yard. Townland names such as Williamstown and Mylerstown and Calfstown are English forms. Ardkill meaning high wood, Kilglass is derived from either *Coill Glas* meaning green wood, but may also be *Cill glas* meaning green church. The neighbouring townland of Balrinnet is translated as Rynette's town.

Field Inspection

Turbines T24, T25 and T26 are located along the edges of the cutover bog (Fig. 14.5, Illus. 14.24). While the drains were full of water, at the time of the field survey the upper levels of the drains were clear for about 60cm and no evidence of trackways or structures could be made out in the vicinity of the turbines (Illus. 14.25). The proposed site access is via an already established track, the proposed access track to the turbines and cables routes will run through the bog.

Recorded archaeological monuments

There are no recorded monuments within the boundary of the proposed wind farm (Fig. 14.5), however despite the extensive milling that has occurred across the site the cluster retains a bogland archaeological potential.

There are several RMP sites in the farmland in the surrounding environment (1km and 1-2km radius) and these are listed and described below. The multi-period complex of archaeological sites sited on Carbury Hill which is located just over 2km to the south are collectively considered for the purposes of this report (described further below in Section 14.3.2.7) the mortuary chapel site on the hill is a National Monument.

Nurney Church and Graveyard (RMP KD003-008001 and 002) is located beside a farmyard in Nurney townland, not much is known of this site but it is suggested that it might be later medieval in date. The site is located on a very gentle north-westerly slope in gently undulating pastureland. There is no visible surface trace of a church (001) contained in the southern sector of the graveyard which is shown on the 1st. ed. OS 6-inch map (1838) and is gone by the revised edition (1909) (Illus. 14.26). The graveyard (002) is sub-octagonal and delineated by a modern stonewall and is still used for burial. The earliest legible grave-markers date to the 18th century. The gate into the graveyard is located in the southwest where there is also a foot stile. Immediately to the southeast of the graveyard is a large farm shed associated with Nurney House and farm (Illus. 14.27). There are restricted views of the surrounding landscape from within the churchyard. The significance of this site lies in its enclosed setting and in the upstanding and subsurface features within it such as the remains of a church and earlier burials. It is thought that the field immediately surrounding the site may also contain additional subsurface features. The church and graveyard site lies to north-northwest of the cluster c. 867m of the closest turbine T25.

There is a Children's burial ground in Balrinnet (KD003-006) in level pastureland. According to the Ordnance Survey Letters (12) the site was a burial place for still-born infants. It comprises a triangular area defined by a low scarp (H 0.5-1m) skirted by later field boundaries along north and east. The interior was disturbed when overgrowth was cleared, and there are no visible burial markers. It is named on the OS maps as *Laghtanafoyna*, the *Laght* element of the word meaning burial ground. The site has been encroached by a large quarry immediately to the north and by a power cable running directly across it (Illus. 14.28). The significance of the site is its archaeological, historical and social interest, its current setting does not contribute to the significance of the site, its area of interest is limited to beyond the site itself and the field within which it lies. The site is located to the north the cluster 1.1km of T25.

In the townland of Balrinnet, is the site of a probable tower house (KD003-005001) with a possible medieval field system (KD003-003002). All that survives is a low, circular grassed-over cairn with some undressed, mortared-stone projecting through. The field system comprises nine rectangular fields defined by low scarps over external ground level and separated by broad, shallow fosses. The site lies within a modern field system, there are two new properties to the northeast and a power line erected to the south. The contribution made by the setting of this site to its significance is for the most part the field within which it lies which contains extensive subsurface and low-lying archaeological features that have the potential to reveal a great deal of information regarding the castle. The site is located north of the cluster, c. 1.1km from T25, the nearest turbine.

The ruined castle of Mylerstown (KD003-012) is located on the northwestern-foot of a long, gentle hillock. Only two parallel, lower portions of castle walling and two sections of associated but collapsed mortared masonry survive (Illus. 14.29). The castle was probably a tower house (21). The site lies across the road from a nineteenth century two storey farm house (Mylerstown House) and outbuildings. Approx. 170m to the northeast of the castle are the remains of a church and graveyard in the same townland (KD003-011001, -002; Illus. 4.27).

The graveyard is a sub-rectangular area raised slightly above the surrounding ground and enclosed by a modern stone wall, it has excellent views of the to the low-lying boggy landscape to west and to Knockcor Hill to the southwest. The graveyard is still in use, with modern burials concentrated to the south of the church. The graveyard contains a ruined church (KD003-011001-), outside of which is a possible 17th century grave slab (KD003-011003), the legible grave markers date from the 18th century. There are excellent views of the surrounding landscape from within the graveyard to the northwest, west and southwest. Knockcor Hill appears to block any views towards Carbury hill, however it is suggested by Wilde (ibid) that there may once been a visual link between Mylerstown castle and the castle on Carbury Hill to the west. The significance of the setting of the castle and the church sites lie in their intervisibility and association with one another as a once integrated medieval complex, it is likely that subsurface features associated with the sites extent into the fields surrounding them. Their siting just below the summit of Mylerstown Hill is also significant as they are one of a number of tower houses and church sites located on the low knolls in the otherwise low-lying landscape; they were sited in such locations in order to be visually dominant in the surrounding landscape, their location along a routeway is also significant. The church site takes in views of the landscape to the west; there is however limited views in this direction from the castle. The complex lies just over 1.5km to the south-southeast of the cluster.

The remaining three sites located over 1km of the Windmill cluster include two burial grounds one in Kilglass (RMP KD003-007) and another in Ballinderry (KD003-034) which have been recorded in antiquity and now form part of a large quarry, the setting of these sites have been obliterated. There is also an enclosure site in Calfstown (RMP KD003-009) which is only present in aerial photography, site has an immediate settings limited to the modern field systems within which it lies.

Table 14.19 is an inventory of recorded archaeological monuments within 1km radius of the turbines within the Windmill cluster and also of sites between 1-2km. The measurements are taken from the turbines to the recorded archaeological monuments.

Table 14.19: Record of Monuments and Places within 1km & 1-2km of the Windmill Cluster (Fig. 14.5)

RMP Reg. No.	Townland	Description	Location (ITM)		Turbines within 1km	Turbines within 1-2 km
KD003-008/-001, 002	Nurney	Church and Graveyard	667148	738049	954m NW of T26, 867m NNW of T25	1.3km NW of T24
KD003-007	Kilglass	Burial ground	668263	738849	N/a	1.1km NNE of T25, 1.3km T24, 1.6km NNE of T26
KD003-034	Ballinderry	Burial ground	669448	739081	N/a	1.9km NE of T24, 1.9km NNE of T25
KD003-009	Calfstown	Enclosure	669886	738190	N/a	1.6km NE of T24, 1.9km NE of T25
KD003-011001-003	Mylerstown (Drehid Ed)	Church, Graveyard, Graveslab	670296	737256	N/a	1.9km ESE of T24,
KD003-012	Mylerstown (Drehid Ed)	Castle - tower house	670476	737186	N/a	2.1km ESE of T24
KD003-005/001-003	Balrinnet	Castle – unclassified, Field system & hollow-way	667334	738923	N/a	1.3km NNW of T25, 1.6km NNW of T26, 1.8km NW of T24
KD003-006	Balrinnet	Children's burial ground	667882	738851	N/a	1.1km N of T25, 1.5km NNE of T26, 1.4km NNW of T24

Protected Structures

The proposed Windmill wind farm will have no direct impact on any Record of Protected Structures Sites (RPS), National Inventory of Architectural Heritage (NIAH) sites or gardens or on any Architectural Conservation Areas' (ACA) (51). While the proposed wind farm lies in an isolated bogland setting it is bordered by a network of roads. The area around Carbury has a rich architectural heritage that spans many centuries, this legacy has a built heritage form that dates from the Anglo-Norman period to the present day, Furthermore, there are a number of middle size farm holdings in the area, all the houses of which are distinct in their varying styles.

Balrennet House (RPS B03-09) is a detached 2- storey three 3- bay modest farmhouse, built in a traditional form with a pitched slate roof and an entrance porch. The house is orientated to the southeast. It is set back from the road to the south and has a tree lined entrance avenue with decorative stone entrance piers and cast-iron railings. The house forms part of an interesting group of agricultural buildings. There is a shelter belt of trees along the road frontage, this is reflected in OS historic maps (Illus. 14.31) suggesting that its design had little to do with views out into the surrounding landscape; the agricultural buildings associated with the house lie to the east and are separate and distinct from the house. The significance of the site lies in its architectural heritage merit as a modest sized farm house which lies within a well-defined plot of land well demarcated by a low wall and mature trees; the house is considered to have an enclosed setting. Balrennet House is located 1km to the north-northwest of the cluster

Ballinderry House (RPS B03-05, Illus. 14.35) is located north of a road junction, it is sited on low-lying land, there is a watercourse running to the south and west inside the boundary of the property. It is a mid-Georgian substantial house and farm holding (circa. 1760's) comprising a detached 2-storey, 3-bay house over part-raised basement on a symmetrical plan. It has a round-headed door opening to centre ground floor which is approached by flight of steps, over the entrance is a Venetian-style window, it has 2-bay 2-storey side elevations to east and to west (52). The structure maintains much of its original character. The front (south) elevation of the house is a highly attractive feature in the landscape (Illus. 14.36), there is a grazing parkland maintained to the front with mature decorative trees within it. The view from the house however is along its entrance out to the road, (although its axis is slightly east of Carbury Hill which lies over 3km to the south). The formal unused entrance way is currently overgrown with grass. The house, set in mature landscaped grounds and forms an attractive and compact group with the attendant outbuildings to north. The structure represents an almost intact mid eighteenth-century farm holding that may have provided employment to locals in the past and which is in addition to its architectural significance has a social and historic interest. There is a quarry site in the lands to the north of the house but it does not detract from the house. The house is within a well-defined by a tree lined boundary enclosing the lands which is bound to the south by the road and the river. Views of the house can only be appreciated at relatively close quarters along the road to the south of the house. It is likely the flight of steps at the entrance that the Venetian-style window has views of the surrounding rural landscape to the south upon which the axis of the house is built. The cluster is located 1.3km to the southwest of the property in lower-lying bog land.

Williamstown House (RPS B03-06), comprises an 18th century Palladian mansion dating to 1760 and set in a 700-acre estate in low-lying lands on the western side of the road surrounding the expanse of bog to the east. It comprises a 2-storey house with a 3-bay front with a Venetian window above a tripartite doorway, the facade wall is carried up to form a parapet with urns decorating its corners. The house is flanked by 2-storey 3- bay pavilions linked by curving curtain walls which forms the farm buildings and houses numerous outbuildings to the rear (west) in a courtyard layout. There is a range of modern farm buildings located to the southwest of southernmost wing. The house is orientated towards the south-southeast there is a mature band of trees in an arc around the front of the house and an open parkland to the front (east) of the house. The lands to the front retain its parkland setting with mature decorative trees dotted throughout. There are two eastern entrances into the demesne, the southern one being an original feature and the most formal having gate piers (Illus. 14.32 and 14.33). The estate is an intact example and has changed little since the first edition map with the exception of a variety of agricultural buildings to the southwest of the main house, its association with Clements is also significant (Illus. 14.34). The decorative walled garden (restored in 2000) lies to the north of the main buildings; it is opened to the public during the summer months. The western boundary of the demesne is aligned a low wall and a dense screening of mature trees, there are no clear views out into the wider landscape giving the site an enclosed setting, there are no views into the property and the house cannot be appreciated from the road adjacent. Part of the significance of the demesne is its isolation from the landscape surrounding it, it was designed to have no inward or outward views which reinforced the social divide between classes that was experienced in the 18th century, there are likely to be views out to the fields to the west of the house which is associated with it. The cluster lies to the northwest, c.1.2km from the outer boundary of the property.

Over 1.5km to the south of the wind farm are three middle sized mid-late 19th century farm dwellings of Coolayna House (RPS B08-27), Teelough House (RPS B08-26) and The Haggard & Demesne (RPS B08-25) all located in close proximity to one another in low-lying land on the southern side of an expanse of the Windmill bog (Illus. 14.37, Fig 14.5).

Coolayna is located in Windmill townland and was built on the site of an earlier group of structures associated with a structure called 'Windmill Lodge'. The house and outbuildings are centrally placed within its associated farm lands and are sited just below a gentle ridge. It has a long partially tree lined entrance avenue, the main house is orientated to the southeast with views in that direction being framed by mature trees to the east and west, which also provide screening. The outbuildings, both old and new, are located to the southwest to the rear of the house. There are few public views into the house; only glimpses can be gained from the road surrounding lands to the east, as the screening in the immediate vicinity of the house prevents a clear view.

Teelough House was also built on the site of a small farm complex as shown on the first edition OS map. The main house is oriented to the southwest and its outbuildings are located to the north (rear), it is accessed from the southeast and has a dense plantation of mature trees to the north and south of the complex, there are no clear views into or out of the property. A watercourse aligned with mature trees form the eastern boundary of the property.

The Haggard and Demesne (RPS B08-25) is a more substantial farm holding and is the biggest of the three. It was constructed sometime after 1838 and replaced another structure of the same name which was removed during the construction of the now removed MGWR Railway line. The main house is oriented to the south; it is accessed via a tree lined entrance avenue from the southeast and is surrounded by mature trees with view framed towards parkland to the south. There are no clear views into the property or designed vistas out of it. There is an additional unused entrance from the south. To the rear of the main house is a substantial rectangular courtyard of stone outbuildings /stable complex which forms an integral component of the intact late nineteenth-century farm holding. There is also a walled garden to the northeast. The lands associated with this property are likely to extend to the edge of the bog to the north. While the front of the property is well screened by planted trees the rear of the property is more open. The cluster is 1.6km to the north of the field to the rear of the stable yard.

These structures collectively represent the late nineteenth century development of the landscape, with prosperous farmers replacing their old thatch houses with more substantial houses built in a formal Georgian style. The houses have long entrance avenues and are surrounded by thick shelterbelts of trees, have stone outbuildings and modern farm buildings lying adjacent to them. The dwellings, with the exception of Ballinderry House do not command views of the landscape outside the land holdings glimpses of the houses are provided only through gaps in hedgerows which for the most part screen the properties from public view. The extents of the setting that contribute to the significance of these properties comprise the main house, the adjacent outbuildings/stable blocks, entrance avenues, the surrounding farm lands and their perimeter boundaries. There is no evidence to suggest that the setting extended much further into the wider landscape. They had a functional relationship with the land within the farm holding and in these examples had limited aesthetic connection with lands outside it.

Table 14.20 below is an inventory of protected structures and NIAH sites within 1km radius and a 1-2km radius of the Windmill cluster. The measurements are taken from the turbines to the outer boundary of Demesnes or from the protected structure itself where it has no lands associated with it.

Table 14.20: Protected Structures/NIAH sites within 1km & 1-2km of the Windmill Cluster (Fig. 14.5)

Reg. No.	Townland	Description	Location (ITM)		Turbines within 1km	Turbines within 1-2 km
RPS B03-09	Balrennit	Balrennit House	267615	238603	943m NNW of T25,	1.3km NNW T26, 1.3km NNW OF T24
RPS B03-06 KD-49-N-664371	Williamstown	Williamstown House	266417	237053	N/a	1.2K W of T26, 1.5km SW of T25, 1.8km SW of T24
RPS B03-05, KD-49-	Ballinderry	Ballinderry House	269287	238563	N/a	1.1km NE of T24, 1.3km NE

Reg. No.	Townland	Description	Location (ITM)		Turbines within 1km	Turbines within 1-2 km
N-693386						of T25, 1.7km NE of T26
RPS B08-25 KD-49-N-677355	Haggard	The Haggard & Demesne	267763	235456	N/a	1.6km S of T26, 1.9km S of T24
RPS B08-26	Teelough	Teelough House	267088	235806	N/a	1.5km SW of T26, 2km SW of T25
RPS B08-27 KD-49-N-665357	Windmill	Cooldyna House	266587	235757	N/a	1.7km SW T26

14.3.2.3Drehid-Hortland Cluster

Introduction

The Drehid-Hortland cluster encircles the northernmost part of Timahoe Bog which is a large expanse cutover peatland bog. The cluster incorporates the dryland and marginal dryland/wetland interface and former bogland; it is located in relatively low-lying but undulating land with the majority of proposed turbines located beneath the 80m contour line. The land rises to more undulating agricultural lands in an arc to the northeast and east of the cluster while to the south the land remains low-lying bogland. The Fear English River cuts through the centre of the cluster and travels along its eastern boundary (of the westernmost turbines) and its tributary the Kilcooney River the River Blackwater and the Clogheraun Stream drain the eastern most lands to the east.

There are 21 turbines, their associated access tracks and cable routes, a met mast, two compounds and a substation proposed for the Drehid-Hortland cluster (Fig. 14.6).

Stray Finds

The stray finds record within area around the Timahoe bog indicates the substantial activity that has taken place within and in the vicinity of the bog from the prehistoric period through to the medieval period. This establishes a significant potential that further stray finds and sites will be found in the cluster land parcel.

Table 14.21: Topographical Files Drehid-Hortland Cluster

Reg. No.	Townland	Description
1972:355.1.-2	Drehid	1972:355.1.-2 - Bent wooden stake in two parts found in bog 4ft deep during bog cutting, found with a pelvis of a female Elk found during Bord na Mona cutting operations. Found at a depth of about 4 ft. Below ground surface near what he termed 'the Dane's Road' (not Rynnes excavation in KAS or in JKAS - which appears to be situated to the north of a togher investigated in 1966 (IA/12/66, see finds from Timahoe West). Workers said that they have found numerous bog butter in this section of Timahoe bog.
2007:225 (IA/141/2008)	Derryvarroge	Bog Body - found in Gilltown Bog.
1958:002:	Hortland	Polished stone axe head found in the bank of a ditch
1958: 1 1979:1, 2 1985:124 IA/89/73	Knockanally	Crannog measuring c. 100m x 80m at junction of small stream flowing into the River Blackwater. Came to light when the rivers were being cleaned and drained in 1973. Large quantity of animal bones, some human bone, a perforated antler pin and some pieces of iron were found. Stratification comprised brushwood, stone, worked timbers, iron slag. Appears the original crannog was divided by river and stream over time. (RMP Site KD004-014) 1958:1 - Polished stone axehead found in a field c. 800m north of the crannog site and apparently was one of a group of 5 or 6. 1979:1, 2 - Two polished stone axeheads. Surface finds in pastureland. 1985:124 - Chert arrowhead, barbed and tanged. Found on surface of soil in tilled field (boggy soil). Early Bronze Age. 1987:102 - Polished stone axehead.
1968:36,37, 38 1966:28.1 & 28.2 1945.61.2 1945.60 & 61.1 IA/382/47	Mucklon	1968:36 - Medieval pottery base and body sherd, found in ploughed field. Wheel-thrown vessel, base and body fragment, with finger pinched decoration around the edge. 1968.37 - Saddle quern, two fragments, found in ploughed field. 1968:38 - Saddle quern, found in ploughed field. 1966:28.1 & 28.2 - Two saddle quern rubbers found during mechanical turf cutting in Timahoe bog. 1945.60, 61.1 & 61.2 - Three shoes. Each consists of two piece leather upper and a wooden patten (wooden sole mounted on three stilts). IA/382/47 - Wooden vessel found in Killinthomas bog about 5ft deep. 18" diam x 3" thick, centre (square) bore, 4 smaller and peg-holes in circumference.
2012:124 IA/200/1952	Corduff	IA/200/1952- Corduff bog, a decorated piece of leather garment. A well preserved decorated band of leather from a tunic like garment. It has a leather chevron shaped applique sewn onto its surface. It has intricate stitching along the hem and neat stitching attaching the two leather strips together securely. Max L 9.96, W 3.54, T0.19.
1970:139 1966.2 1978.3 (IA/7/1978) 1942:409 1941:1120 M1950:4 2011:132 (IA/61/2011)	Timahoe West	Timahoe West: 1970:139 - Roughout for two-handed wooden vessel, found on gravel under 10-12ft of peat. 1966.2 - Flint hollow-based arrowhead, found in Timahoe bog at unknown depth 1958. Timahoe E/W: 1978.3 - Leather shoe. Timahoe: 1942:409 - Wooden tool, now in 4 fragmented parts; one paddle-like object, one perforated disc piece and two pegs. Possibly parts for a butter paddle? Found in bog at Derrymahon. 1941:1120 - Spearhead, bronze kite-shaped, side-looped. Found in bog.

Reg. No.	Townland	Description
		M1950:4 - Wooden vessel fragments, found in bog at depth of 7 ft. 2011:132 - Bog butter. IA/35/81 - recorded find for 'vicinity of Timahoe bog'. Human skeletal remains found in bog by workmen in 1981, possibly in the area of Drummond or Ballynakill Lower townlands. There was also the mention of a leg bone with leather around it. Find record only - Human forearm found in Timahoe bog.

Townland Names

Most of the townland names in the study area are anglicised Irish forms; they predominantly relate to land use and land form. To the east of the cluster is the townland of Hortland named after Josiah Hort who built a house here in the mid eighteenth century, prior to this the area was called Ballysculloge, which was then anglicised to Scullogestown. According to Barry this name may be derived from people that were referred to as 'Sculloges' who were groups of labourers and manufacturers (53). There is no documentary evidence for an Early Christian origin for the sites in Hortland, but there is a tentative link to the existence of an Early Christian monastery from the placename. According to Joyce 'scoil', meaning school, was associated with monks or scholars who carried out the farm work for the monastery at Hortland and so the term came to mean a small farmer who worked his own land (54).

Table 14.22: Toponyms- placename meanings (townlands) within the Drehid-Hortland cluster

Townland	Origin	Translation	Meaning and notes of interest
Ballynamullagh	Irish	<i>Baile an mallacht</i>	'town of the curses or maledictions'
Clonkeeran	Irish	<i>Cluain caorthainn,</i>	'lawn of the rowan trees'
Coolree	Irish	<i>Cul fhraoigh</i>	'back of the heath'
Drehid	Irish	<i>An Droichead</i>	Droichoid, 'a bridge'
Killyon	Irish	<i>Cill Liadhaine</i>	church of St Liedania, the mother of St Kieran of Laighir'
Kilmurry	Irish	<i>Cill Mhuire</i>	Mary's church'
Parsonstown	English	<i>N/a</i>	Reference in 1305 to 'villa parsonne' (the town of the parson) in Carbury.
Hortland	English	<i>Hortland</i>	Townland formed part of the property of Sir William Hort. OS Parish Name Bk: "There is an old grave yard in the demesne on the right side of the avenue."
Knockanally	Irish	<i>Cnoc an aille</i>	'hill of the precipice'
Derrycrib	Irish	<i>Doire Choirb</i>	the oak wood of Corb (Corb - a personal name) or Doire coirb, 'oak wood of the cart or waggon'
Derryvarroge	Irish	<i>Doire Mhairge</i>	oak wood of (the) boundary This townland is situated on the border of two baronies. O'Donovan has 'Doire Bharrog - Barrock's oak wood'.

Field Inspection

Turbines T11-T15 are located in a generally low-lying landscape, accessed via various forestry tracks that lead into the site from the east and north (Fig. 14.6). The proposed turbines are located within a dense industrial forestry plantation that is in various stages of the forestry cycle. There are deep drains dividing the plantations into regular field plots, the drainage channel faces showing that this land is in deep bog. The proposed site access tracks travel via an existing forestry access road or through the forest. While the areas are completely forested, the archaeological potential at the turbine footing beneath the tree root system and deep in the peat bog is considered to be relevant given the discovery of toghers discovered through peat milling that lie deep in the bog.

There is a ringfort site (KD004-011) in a field at the very edge of the bog and a stream in Mulgeeth c. 393m to the south southeast of T13. The site is completely overgrown with trees and scrub and lies in a field of pasture; it lies in close proximity to a possible habitation site (KD004-010) where two saddle-querns and a sherd of medieval pottery were found near the stream of which there is no surface trace. The landscape in which the site lies has altered with the cutover bog, modern field divisions, and forestry (Illus. 14.38). Any visual link that might have existed between this ringfort with Coolree ringfort (KD004-009) to the north and Drehid ringfort (KD008-011001) to the south (described below) is no longer present due to the dense mature forestry plantation in-between.

The proposed access tracks to T11–T16 are also entirely through forestry as is the proposed sub-station.

Turbine T16 is located in forested land but on land that was formerly dry land at the edge of the bog. Turbine T17 is located in a recently planted broad leaf forest also located on dry land above the bog, the Kilcooney River flows to the south of the plantation.

Turbine T18 is located in a level field of pasture, the northern field boundary of this is a mature mix of trees and thorn, with ditch and bank on the other side and the Fear English River that flows through a deeply cut channel. This is a new channel cut for the river sometime in the twentieth century; the original path of the river was further east and is now subsumed in forestry. This field was previously subdivided which can be made out as faint linear features in the field.

In Drehid there is a ringfort site (KD088-01101) c. 293m to the north-northeast of Turbine T18, (c. 408m to the southwest of T15, and 390m to the south of T16) in the neighbouring field. The ringfort is located in a field of damp pasture with a south facing slope, in flat somewhat waterlogged land. It comprises an oval enclosure with a low earthen bank and a fosse that is traceable to the north and east, the site is overgrown and the interior could not be examined, a souterrain (-011002) is recorded at the site however because of the overgrown nature of the interior this could not be inspected (Illus. 14.39). The existing setting of this site has been much altered over time, the river has been deeply ditched, and the bog to the east that the site would have overlooked is now in dense forestry. The nearest recorded monument to the site is another ringfort (KD088-010), in Ballynamullagh in a ploughed level field circa. 1.1km to the east (Illus. 14.40), there is no visual link between these two sites as forestry plantations lie in-between. The field is almost entirely surrounded by forestry plantation which has encroached on the site to the north and east and has removed the relationship that the site had with the river to the north, the bogland to the south and other ringfort sites on the rising land have also been significantly altered. The contribution that the setting makes to the significance of this site is limited and does not extend beyond the existing field within which it lies.

A met mast is proposed in the northeast corner an irregular shaped field of gently undulating pasture to the south of T18.

Access tracks and cables to Turbines T19 –T23 run through irregular shaped fields of pasture subdivided by hedgerow and drainage ditches. The deep drainage ditches present along the field boundaries indicate that the lands have been improved and drained over the years, with the most recent activity related to the removal of field boundaries making fields larger. Turbine T19 is located in a field of low-lying level pasture with gentle undulations and the Fear English River to the west, there is a natural east –west ridge across the field. Turbine T20 is located a long level field of pasture at the edge of the bog with the Fear English River forming the western boundary. Turbine T21 is located in a field of level pasture that gently falls away towards the north. Turbine T22 is located in the centre of a small field of pasture on the edge of the bog the northern/western boundary comprises a large tree lined drainage ditch. In the neighbouring field to the north of the site of a Chalybate Spring/ Mineral Spring shown here on the first and revised edition OS Map and it drains into this ditch. The Fear English River runs along a ditched field boundary to the west of the field.

Turbine T23, in Drehid lies in a ploughed irregular shaped field that is low-lying and generally flat. To the southeast of this in a small rectangular field of pasture that rises where the compound is proposed. This field was once part of a larger field system.

Approximately 638m to the southeast of turbine T21 and 670m from north-northeast turbine T23 is the site of moated site (KD008-024), the area that the site lies within had been dug out and reclaimed in the twentieth century but elements of its fosse survives. The site is located immediately west of a farm yard and is low-lying in nature (Illus. 14.41). Its existing setting does not contribute to the significance of the site, which in its current disturbed state is predominantly of evidential value. This site will not be impacted by the proposed development.

Turbine T47, in Parsonstown lies in a land parcel to the south of a local road. The proposed access to track to Turbine T47 is via existing farm tracks to the rear of a farm and modern houses and then runs through level fields of pasture with very gentle undulations. The turbine is located in a large field of very level pasture (Illus. 14.42); the field rises very slightly to the east. Aerial photography shows a potential rectangular enclosure at the western end of the field (measuring 31m northeast-southwest x 35m northwest-southeast) (CH7), approx. 162m west of T47 (Illus. 14.43). It does not correlate with any former field boundaries on the historic maps the feature is not indicated on the historic mapping and on the first edition OS map an access track runs to the north of it. Its morphology and siting suggests a possible moated site which suggest that there could also be subsurface evidence of associated field systems.

There are two RMP sites located immediately outside the proposed cluster boundary to the southwest: two enclosures (KD008-016 & -023) in Parsonstown townland, situated in a field adjacent to turbine T47 approx. 470m to the southwest. The enclosures are located in the southeastern corner of a damp field of pasture that lies north of the road on a low knolls surrounded by slightly lower, poor, wet pasture. The enclosure is defined by three, low, concentric earthen banks separated by two shallow fosses, with traces of a third, outer fosse visible, the nature of the site is best seen from aerial photography and is shown on the historic map sources. The interior contains a possible house (KD008-016001). The sites lie in a modern pastoral landscape and there are modern houses aligning the road close by. The existing setting of the sites in the corner of a modern field system does little to enhance or assist in the understanding of the significance of the site.

In the fields to the northeast of T47 there are also relict features such as cropmarks showing plough ridges and former access ways and boundaries associated with former field systems that are shown on the first edition map. It is suggested in the Kildare Industrial Heritage Survey that these features may relate to a former quarry (KDIAHS 088-053).

An examination of the mid-19th century 1st edition OS map (sheets 3, 4 & 8) revealed a slightly more populated landscape in this area than on the 1911 OS map, with small structures scattered throughout the lower half of the site in the area of T17-23, the majority of which have since disappeared.

The easterly turbines in the Drehid-Hortland cluster (T40- T46) are located in the townland of Hortland. Access to the turbines is proposed via a trackway from the south, located just to the east of a bridge ('Blackwater Bridge') over a very linear section of the River Blackwater in Derrycrib, the linear nature of the river suggests drainage and 'improvement' works – in the late eighteenth and nineteenth century possibly related to the development of systematic turf extraction. The proposed access track will cross the River Blackwater into a large forested area to Turbine T40; the access track continues through forested land and then crosses a large drain through fields of very level pasture to Turbine T41. Turbine T41 is located in a field of rough pasture and reclaimed bog. Turbines T42–45 and the access track are in forestry, on the first edition OS map these areas were entirely under a vast bog.

There are small dry-islands of archaeological potential to the west of the turbine cluster (now afforested), they are labelled as *Derrynagun* and *Derrywaddreen* on the first edition map and are subdivided into small field systems. There is no indication of access to the islands which may suggest that it was only used in dry weather where it may have been more accessible or that trackways may have been located here. If that is the case there is a potential that they may have traversed the afforested area of the turbine cluster. The bog itself is the meeting point the parish (Timahoe and Sculogestown) and barony boundary (Itheathy and Oughterany, Clane and Carbury) and five townlands and the islands are split by the townland boundary between Hortland and Derryvaroge. The islands have been afforested (Illus. 14.44).

The access track runs along an existing forestry track and then turns north through level and damp pasture field with very gentle undulations adjacent to a deeply cut drainage ditches fields and across a ditched stream to Turbine T46 (Illus. 14.45). Turbine T46 is located adjacent to the large ditch. To the east is the roofless ruin of a single-storey rubble stone dwelling with redbrick surrounds and chimneys, this structure is on the first edition map, it is overgrown with trees (Illus. 14.46) and is of local historical interest (CH8). This ruin will not be impacted by the proposed development, though it lies just 100m from the turbine.

Table 14.23: Cultural Heritage/Archaeological features identified during field work (Fig. 14.6)

CH. No.	Townland	Description	Location (ITM)	Location (ITM)	Distance
CH7	Parsonstown	Cropmark	675478	733454	162m west of T47
CH8	Hortland	Ruined structure	680037	737151	100m from T46

Recorded archaeological monuments

There are fourteen recorded monuments within 1km of the Drehid-Hortland cluster that have been recorded or excavated in advance of milling operations or are partially remaining beneath the bog and relate to the crossing of the bog (toghers, gravel trackways and peat land structures). The existing setting of these sites has provides little contribution to the appreciation of the site having been obliterated by the milling operations that have taken place in the bog. The regeneration of the bog in these areas however will in time enhance the setting.

The remaining sites are indicative of the early medieval settlement of the area on higher ground around the bogland (i.e. comprising five ringforts, a crannog, and two enclosure sites).

The ringforts sites on the edge of the bog at Mulgeeth (KD004-011 described above) and its associated habitation site (KD004-010, no upstanding remains), Ballynamullagh (KD008-010), adjacent sites at Coolree (KD004-008 and -009) and a ringfort and souterrain in Drehid (KD008-011001-/002, described above) indicate that there was an early medieval population living and work at the very edges of the bog (Fig 14.6). The ringforts are located on well drained land on the outer edges of the large expanse of bogland, they lie within modern field systems in a landscape that has been considerably altered over the last number of decades, and their banks are overgrown with mature vegetation. With the exception of the adjacent ringforts at Coolree, large tracts of afforested land have been planted in the fields between the sites and along the edges of the bog any former sightlines towards the bogland or inter-visibility between the sites is no longer legible. The most recent plantation located in the fields between the ringfort in Ballynamullagh and in Drehid. The contribution that the existing setting makes to the significance of these ringfort sites is limited; it is considered that the element of setting which contributes to the archaeological significance of these sites of do not extend much further outside the fields within they lie.

The crannóg site in Dysert (KD004-014001) was discovered during drainage work at the confluence of a small north-easterly flowing stream with the northwest flowing River Blackwater. The site presents as an area of overgrown rough pasture at the junction of local road and the river, it is otherwise not legible or accessible. The significance of the site lies with its evidential value and the potential that the subsurface remains could provide information on the early medieval economy and archaeological potential, its setting is considered to be limited to its relationship to the river and is not considered to extend much further than this. The site is located c.800m north of T46.

Over 1km to the northeast of Drehid-Hortland cluster in the townland at the Dunfiirth Cross Roads is the publically accessible Dunfiirth medieval church and graveyard site (KD004-005001-003) and the 'site of' a castle (KD004-006) (Illus. 14.47). The site is located on a natural knoll in the landscape on lands that fall away to the south to Timahoe Bog. It is located at a cross roads. The graveyard is enclosed by low stone walls and is surrounded by a dense canopy of mature trees, there are limited views into and out of the site. It contains a church which is in ruins and a graveyard, a Mausoleum known as the Hamilton Mausoleum and a collection of elaborately carved stones (RPS B04-04) (Illus. 14.48 -49). On the opposite side of the road from the church to the east is the site of a castle, located adjacent to modern farm sheds (KD004-006), there is no surface trace of this site a modern farm building is located to the east of the site. The siting of the church on a rise, its enclosure and its location at a cross roads and the site of the castle adjacent collectively contribute to the significance of the site, it is likely that it once took in views of the landscape around the site and along the road but the trees that enclose the site block out these views.

One of the larger enclosure sites in the area is that on Ovidstown Hill (RMP KD004-016, RPS B04-02). The enclosure, likely to be the remains of a large ringfort is marked 'Ovidstown Rath' on Ordnance Survey six-inch maps, is described as a large circular enclosure (dimensions 93m N-S by 99m E-W) encircled by traces of a bank at the northeast and an external fosse. It is situated on a slope overlooking the surrounding landscape; it has a slight natural rise at the centre and possible entrances at both the northeast and east. The southern half of the site is overgrown with mature trees and there are no views out of the site, however the site can be identified on the hilltop as a cluster of trees from some vantage points in the landscape.

The significance of the site is enhanced by its dominant hill top setting allowing the site to be seen from the roads in and around the site, the site would have originally had extensive views of the landscape around it. The site is located to c.1.7km north of the cluster.

The motte site and ecclesiastical enclosure in Hortland is described below in relation to the former demesne lands of Hortland.

Recorded archaeological monuments within 1km and between 1–2km of the cluster are listed below.

Table 14.24: Record of Monuments and Places Record of Monuments and Places within 1km & 1-2km of the Drehid-Hortland Cluster (Fig. 14.6)

Reg. No.	Townland	Description	Location (ITM)	Location (ITM)	Turbines within 1km	Turbines within 1-2 km
KD008-011001/002	Drehid	Ringfort – rath, Souterrain	674174	736131	390m S of T16, 440m S of T5, 282m NE of T18, 785m SSW of T17, 639m NNE of T19, 519m NE of the Met Mast	1.2km SE of T14, 1.4km N to T20, 1.3km NNE of T21, 1.8km N of T22, 1.9km NNE of T23,
KD004-009	Coolree (Dunfierrth Ed)	Ringfort - rath	676282	738207	593m NNW of T11, 819m NE of T12,	1km N of T13, 1.6km NE of T14,
KD004-008	Coolree (Dunfierrth Ed)	Ringfort - rath	676191	738195	579m NNW of T11, 872m NE of T12,	1km N of T13, 1.7km NE of T14,
KD004-010	Mucklon	Habitation site	676644	736956	390m SE of T13, 903m SE T12, 726m SSE of T11	1.6km E of T14, 1.5km NNW of T49
KD004-011	Mulgeeth	Ringfort - rath	676444	736786	406m SE of T13, 874m SE T12, 726m S of T11	1.4km E of T14, 1.3km NNW of T49
KD008-010	Ballynamullagh	Ringfort - rath	673095	736253	429m NW of T17, 982m NW of T18	1km SW of T16, 1.5M NW of T19, 1.5m NNW of T21
KD009-001	Mulgeeth	Ringfort - unclassified	677719	735690	N/a	1.95m NE of T45, 2km SE of T13
KD004-014-001	Dysart, Knockanally	Crannog, Road road/trackway	680163680120	737936737939	747m N of T46	1.7km N of T44, 1.8km NE of T45
KD008-025	Drehid	Road - unclassified togher	674854	734147	541m E of T22, 719m SE T20	1.1km E of T23, 1.3km SE of T21, 1.4km SSE of T19, 1.9km SE of T18,
KD008-026	Drehid	Road - unclassified togher	674714	733717	621m SE of T22	1km SE T20, 1.1km E of T23, 1.5km SE of T21, 2km SSE of T19, 2km E of T47

Reg. No.	Townland	Description	Location (ITM)	Location (ITM)	Turbines within 1km	Turbines within 1-2 km
KD008-027	Drehid	Road - unclassified togher	674515	733477	779m S of T22	1.3km S T20, 1.5km SSE of T21, 1km SE of T23, 1.8km E of T47,
KD008-039	Drehid	Road - gravel/stone trackway - peatland	674668	733311	976m S of T22	1.4km S T20, 1.8km SSE of T21, 1.3km SE of T23, 1.8km SSE of T19, 2km E of T47,
KD008-016/-016001	Parsonstown (Windmill Cross Ed)	Enclosure, House - indeterminate date	672219	733247	473m SE of T47	1.8km SE of T23
KD008-023	Parsonstown (Windmill Cross Ed)	Enclosure	672180	733193	558m SE of T47	1.9km SE of T23
KD008-024	Drehid	Moated site	673129	734517	674m NNW of T23, 631m SSW of T21	1.1km NNE of T47, 1.2km NW of T22, 1.4km W of T20, 1.6km SW of T19, 1.6km SW of T18, 1.4km SSW of T17, 1.4km SW from Met Mast,
KD009-027	Timahoe West	Structure - peatland	675050	732504	N/a	1.8km SSE of T22
KD009-030	Timahoe West	Structure - peatland	675054	732493	N/a	1.9km SSE of T22
KD009-034	Timahoe West	Structure - peatland	675021	732518	N/a	1.8km SSE of T22
KD009-035	Timahoe West	Structure - peatland	675033	732500	N/a	1.9km SSE of T22
KD003-018	Kilshanchoe	Ringfort - rath	673663	738398	N/a	1.9km N of T16, 1.9km NE of T14
KD004-004	Gorteen (Dunfierth Ed)	Stone head	676677	739239	N/a	1.6km N of T11, 2 Km NNE of T12
KD004-005/001-004	Dunfierth	Church. Tomb - effigial. Graveyard. Tomb - chest tomb.	677566	738371	N/a	1.3km NE of T11, 2km NE of T12, 1.7km NE of T13,
KD004-006	Dunfierth	Castle - unclassified	677627	738385	N/a	1.4km NE of T11, 2km NE of T12, 1.7km NE of T13,
KD004-007	Gorteen (Dunfierth Ed)	Ritual site - holy well	675759	738884	N/a	1.4km NW of T11, 1.7km NNW of T13, 1.4km N of T12, 2km NNE of T14
KD004-012	Dunfierth	Moated site	678027	737795	N/a	1.2km N of T49, 1.6km E

Reg. No.	Townland	Description	Location (ITM)	Location (ITM)	Turbines within 1km	Turbines within 1-2 km
						of T11, 1.8km NE of T13
KD004-015	Knockanally	Ringfort - rath	680644	738190	N/A	1km NNE of T46, 2km NNE of T44
KD004-016	Ovidstown (Cloncurry Ed)	Enclosure	681782	737878	N/a	1.7km NNE of T46
KD004-017	Hortland	Castle - motte	681187	736719	N/a	1.1km SSE of T46, 1.2km NNE of T44, 1.7km NNE of T45, 1.4km NE of T43, 1.5km NE of T41, 1.7km N of T41
KD004-018/ 001,002, 003,004	Hortland	Ecclesiastical, enclosure Church, Graveyard, Font	681188	736653	N/a	1.1km SSE of T46, 1.1km NNE of T44, 1.6km NNE of T45, 1.4km NE of T43, 1.5km NE of T41, 1.6km N of T40
KD004-023	Dunfierth	Ritual site - holy well	677997	737799	N/A	1.2km N of T49, 1.5km E of T11, 1.6km NE of T13
KD004-030	Dunfierth	Moated site	677874	737756	N/a	1.4km E of T11, 2km NE of T12, 1.7km NE of T13,
KD004-032	Gorteen (Dunfierth Ed)	Moated site	677046	739322	N/a	1.7km NNE of T11,
KD004-042	Gorteen (Dunfierth Ed)	Burial (record of)	676166	739263	N/a	1.6km N of T11, 1.8km NNE of T12,
KD008-017	Ardkill	Enclosure	671365	734896	N/a	1.9km NE of T47
KD008-020	Collinstown (Carbury Ed)	Church (site of)	672255	734926	N/a	1.4km NNW of T47, 1.6km NW of T23, 1.4km W of T21, 1.5km SW of T17, 1.7km SW of the Met Mast, 2km SW of T18
KD008-029001	Loughnacush, Parsonstown (Windmill Cross Ed), Timahoe West	Road - class 1 togher	674413	732430	N/a	1.9km SSE of T23, 1.7km S of T22, 2km SE of T47
KD008-030	Kilkeaskin, Loughnacush, Timahoe West	Road - class 1 togher	674393	732452	N/a	1.9km SSE of T23, 1.7km S of T22, 2km SE of T47

Reg. No.	Townland	Description	Location (ITM)	Location (ITM)	Turbines within 1km	Turbines within 1-2 km
KD008-036	Timahoe West	Road - class 2 togher	674995	732799	N/a	1.2km SE of T48, 1.5km SE of T22, 2km SSE of T20, 1.9km SE of T23
KD008-037002-	Timahoe West	Road - class 2 togher	674982	732531	N/a	1km SSE of T48, 1.8km NNW of T22
KD008-043	Timahoe West	Structure - peatland	674933	732805	N/a	1.5km SE of T22, 2km SSE of T20, 1.9km SE of T23
KD009-002	Hortland	Ringfort - unclassified	682138	736261	N/a	1.4km NE of T40, 1.8km NE of T41,
KD009-003	Fanaghs	Ringfort - unclassified	682924	735759	N/a	1.6km NNE of T40
KD009-004	Fanaghs	Ringfort - rath	683337	735017	N/a	1.8km E of T40
KD009-023	Dunmurraghill	Enclosure	681920	733100	N/a	2km S of T40
KD009-024	Dunmurraghill	Ritual site - holy well	681835	733109	N/a	2km S of T40
KD009-032	Derryvarroge	Road - class 1 togher	680285	733504	N/a	1.5km S of T42, 1.8km SSW of T41, 1.9km SW of T40

Protected Structures

There are no protected structures, NIAH sites or historic gardens within or in the immediate vicinity of the proposed cluster (Fig. 14.6).

There are three protected structures within 1km of the cluster, a plaque (RPS B04-09) on Bishops Chair Bridge in Hortland and Newpark House (RPS B09-09).

Newpark House (Illus. 14.50), in Newtownmoneenluggagh, is located adjacent to the roadway at a distinctive bend in the road. The house is a middle sized farm house of classical proportions, comprising a 3-bay, 2-storey dwelling with a central octagonal break front to the front elevation; it has a hipped slate roof and two redbrick chimneys. The axis to the house is oriented to the southeast slightly off the entrance view towards the garden. It is sited on the eastern side of the property and is orientated to the southeast; it has a collection of outbuildings to the rear (north). The property and its front garden is bound by a low rendered rubble stone wall along its eastern roadside boundary, inside of which is a belt of mature trees. The entrance avenue house is aligned with a low hedgerow on the eastern side with intermitted mature trees; there is a small garden area to the front of the house. The layout of the property has changed little since the first edition OS Map (Illus. 14.51). There are limited public views into the property. The original parkland associated with the house is located to the west and is defined by a mature hedgerow and is separate from the house. The setting of the house, like the other mid-sized farm houses in the study area is an enclosed one and does not extend far beyond the house and its associated parklands, there are no key / designed views out into the surrounding landscape and there are no views into the property. There is little to suggest that the surrounding landscape contributes to the architectural, historical and social value of this site. The wind farm is located to the northwest of the site, the house is c.857m from T40 (and c.656m from outer boundary as shown 1st ed. OS).

Knockanally House, now Knockanally Golf Course, is located in an elevated position (RPS B04-10, Illus. 14.52). It is sited on the crest of Ovidstown Hill and overlooks the low-lying landscape within which the proposed windfarm lies. It is a mid-nineteenth century Italianate house of two storeys with a central one bay balustrade attic rising above the bays on either side (it replaces an earlier house on the lands). It has a 3-bay entrance front and a central Venetian window. The axis of the house is towards the southwest, presenting views of the low-lying landscape to the south.

The golf course lies on the south facing slopes to the front to the house (in the former parkland) and overlooks the afforested bogland landscape to the south which the turbines are sited (Illus. 14.53). To the west of the house there is a range of outbuildings and the precursor to Knockanally house, a golf resort/village has now been developed around these buildings. The gate lodge and gateway (Illus. 15.54) to the house is a notable feature along the road, the demesne was expanded when the present Knockanally House was built (see first and revised edition OS Maps (Illus. 14.55) to include the Blackwater River which now forms part of the tree-lined southern boundary of the demesne. A low rubble stone wall forms the outer perimeter of the demesne. At the time of Bence-Jones (41) survey it was the home of Captain Sheppard it is now a club house for the Golf course. Despite the development of the demesne lands the architectural heritage significance of the site can still be appreciated. Knockanally house was sited and designed to have extensive views views of the low-lying lands to the south. The views to the house are rather limited from the surrounding road, it can be best seen from the fields to the south.

The site of Hortland House (RPS B04-11) is located in a townland of the same name in lands formerly known as Scullogstown. The now demolished Hortland House was erected in 1748 and is attributed to Richard Castle (41), the house was 2-storey with 5-bays, by the early 20th the house had fallen into disrepair and was demolished (55), the single-storey three-bay gate lodge survives. After the 1798 Rebellion Sir John Hort Bart lodged a claim for compensation for damage to Hortland House caused by the United Irishmen prior to the Battle of Ovidstown (56). The Battle of Ovidstown was a decisive defeat of the rebel forces on June 18th 1798, and the graveyard in Hortland is now the resting place of a number of the dead who were interred in unmarked graves just inside the graveyard gate (54). The present house is located in a dip and is sheltered by mature trees. The demesne lands were more extensive than they are today (Illus. 14.56). An open parkland area to the north and west of the house has been replaced with long field divisions associated with new properties to the north. The lands immediately surrounding the house is most intact area of the demesne and is defined to the north by a curving boundary. It is considered likely that features associated with the demesne are present in lands formerly associated with the demesne. Within the parkland of the demesne straddling the current entrance road are a church and graveyard site (RMP KD004-018) and a motte (RMP KD004-017 and RPS B04-08). They are sited on a ridge that travels north-south across the lands, both monuments are enclosed entirely by mature trees and are overgrown in the interior (Illus. 14.57), they have been incorporated into the demesne as decorative landscape features and have been planted with decorative trees. They do not have extensive outward views of the surrounding wider landscape. The aspect of the setting of the recorded monuments and the relict demesne which contributes to the significance of the site relate to the surviving demesne landscape, the relationship between all the surviving elements within the demesne lands (including the entrance, gate lodge, surrounding fields and boundaries). The proposed cluster is located c.1km to the west of the former demesne.

Also associated with the landowners of Hortland is Bishops Chair bridge which carried a road leading from just outside Hortland over the River Blackwater and into the bog, a plaque, which is protected (RPS B04-09, Illus. 14.58) on the existing modern bridge reads *'This bridge was built by Josiah Hort Lord Archbishop of Tuam one of his Majesties most honourable privy Councillors in the year 1745'*. Hort was also said to have been responsible for building a row of houses known as 'The Street of Hortland' resettling tenants away from his house and close to the bog. When the church fell out of use a mass path is said to have gone through the estate to Newtown Church (54). The setting of this feature is immediate.

Some of the protected structures between 1 and 2km of the wind farm are recorded archaeological monuments these include Ovidstown Ringfort (RPS B04-02, KD004-016), Dunfieth Church Ruins & Hamilton Mausoleum & carved stones (RPS B04-04, RMP KD004-005001-003), Colree ringfort (RPS B04-05, KD004-008) and the motte at Hortland (B04-08, KD004-017) which are previously described.

The following is a list of protected structures within 1km and also within 1–2km of the Drehid-Hortland cluster. Just over 2km is the Donedea Forest Park, a Coillte owned public amenity in demesne lands formerly associated with Donedea Demesne. In the centre of the dense forest are a fortified house which also incorporates a tower house (RPS B09-02, B09-06), Saint Peter's Church (RPS B09-018) and a canopied tomb & Medieval Church in ruins (RPS B09-01). There are a number of buildings in its immediate outside the demesne that were patronised in by the Aylmer family estate. There is a collection of structures in Dunmurraghill the northeast of Donedea Demesne within 2km of turbine T40, Connolly's Public House (B09-16), Hillview (former Post Office) (B09-12), Ballagh Lodge (B09-19) and the Rectory (B09-13) which form the character of the built heritage in the area associated with the large former Demesne (now a forest park). The public house is sited at a road junction; the dense shelterbelt of trees at each roadside is likely to shelter the view of T40 to the 1.4km to the southeast. None of the structures are orientated towards the windfarm to the east. The properties are located off local roads lined with dense mature tree and hedgerows; there are no clear public views into them.

Each property has a well-defined and enclosed setting and do not have deliberate vistas out into the surrounding landscape. There may be glimpses of T40 from open areas within the properties resulting in a slight visual impact. The site is surrounded by a high perimeter stone wall, it is considered that the approach roads surrounding the demesne land the protected structures surrounding it form part of the element of the setting of this site which contributes to its significance.

Metcalfe Park (RPS B04-07), located to the south of Johnstown, is a former nineteenth century (or earlier) dwelling that was part of an extensive flour mill complex associated sited in the vicinity of the the Fear English River which has long since been demolished along it is likely that features associated with the mill may still survive in the lands. It has an enclosed setting and is surrounded by small fields which enclose the property. The site was not designed to take in wider landscape views outside the property, it instead had a functional relationship with the lands surrounding and to the river and the roadside that once lay adjacent. There are no views into the property. Turbines T11, T12 and T13 lie between c. 1.4 south of the site.

Table 14.25: Protected structures/NIAH sites within 1km & within 1–2km of the Drehid-Hortland Cluster (Fig. 14.6)

Reg. No.	Townland	Description	Location (NGR)		Turbines within 1km	Turbines within 1-2 km
RPS B04-05 (RMP KD004-008)	Coolree (Carbury BY)	Colree Fort	276258	238167	579m NNW of T11, 872m NE of T12,	1km N of T13, 1.7km NE of T14,
RPS B04-09	Hortland	Plaque on Bishops Chair Bridge	281030	236702	926m SE of T46	1km NE of T44, 1.5km NE T45, 1.3km NE T43, 1.9km NE of T42, 1.4km NNE of T41, 1.7km NNW of T40
RPS B09-09	Newtownmone enluggagh	Newpark House	282388	234795	857m SE of T40 (656m from outer boundary 1 st ed. OS)	1.7km SE of T41 (1.5km from outer boundary 1 st ed. OS)
RPS B04-08, (RMP KD004-017)	Hortland	'Moat' at Hortland	281257	236695	N/a	1.1km SSE of T46, 1.2km NNE of T44, 1.7km NNE of T45, 1.4km NE of T43, 1.5km NE of T41, 1.7km N of T41
RPS B04-10, NIAH 11900407, KD-49-N- 806378	Knockanally	Knockanally House	280923	237899	<i>Outer boundary:</i> 534m NE of T46	<i>Structure:</i> 1km NE of T46, 1.8km NE T44 <i>Outer boundary:</i> 1.6km NE of T45, 1.3km NE of T44, 1.8km NE of T43
RPS B04-11, KD-49-N- 816367	Hortland	Hortland House	281596	236751	<i>Outer boundary:</i> 991m SSE of T46	<i>Outer boundary:</i> 1 km NNE of T44, 1.5km NNE of T45, 1.2km NE of

Reg. No.	Townland	Description	Location (NGR)		Turbines within 1km	Turbines within 1-2 km
						T43, 1.2km NE of T41, 1.8km N of T42, 1.3km N of T40
RPS B04-02, (RMP KD004-016)	Ovidstown	Ovidstown Ringfort	281846	237847	N/a	1.7km NNE of T46
RPS B04-04 (RMP KD004-005001-003)	Dunfiirth	Dunfiirth Church Ruins & Hamilton Mausoleum & carved stones	277623	238348	N/a	1.3km NE of T11, 2km NE of T12, 1.7km NE of T13
RPS B04-17, NIAH 11801014, KD-49-N-766392	Gorteen (Carbury BY)	Metcalf Park	276705	239241	N/A	<i>Outer boundary:</i> 1.4km N of T11, 1.8km NNE of T12, 1.9km N of T13
RPS B04-24, NIAH 11801011	Gorteen (Carbury BY)	Fear English Bridge, Johnstown Bridge, Co. Kildare	276355	239389	N/a	1.7km N of T11, 2km N of T12
RPS B08-12	Dreenan	Dreenan Windmill in Ruins	271362	232110	N/a	2km SW of T47
RPS B09-12	Dunmurraghill	Hillview (former Post Office)	283006	233908	N/a	1.8km SE of T40
RPS B09-13	Dunmurraghill	The Rectory	283149	233846	N/a	1.9km SW of T40
RPS B09-16, NIAH 11900901	Newtownmoneen-luggagh	Connolly's	282697	234140	N/a	1.4km SE of T40
RPS B09-19	Donedea	Ballagh Lodge	283253	234064	N/a	1.8km SE of T40

14.3.2.4 Derrybrennan Cluster

Introduction

There are two turbines and their associated cables and access tracks proposed in the Derrybrennan cluster which is located in a dry island in Lullymore bog (Fig. 14.7). The immediate landscape has been altered over time through the extensive exploitation of the Bog of Allen since the 1950's. Derrybrennan Bog is located to the south of the Grand Canal and is accessed from an unclassified road off the R403, c.7km south of Derrinturn and c.4km north of Allenwood. This road runs southwards to Lullymore 'dry island' along the eastern side of Derrybrennan bog. The bog is bordered to the southwest by Glashabaun South Bog and to the north and north-east by pastureland. Derrybrennan Bog covers an area of 148ha and is part of the Bord na Mona Derrygreenagh group of bogs. It was initially milled to supply peat for the briquette factory at Derrybrennan and in later years to supply peat to the power station at Edenderry. There are a total of 95 production fields running north-north-east/south-south-west in this group.

Stray Finds

There are no stray finds recorded to the townland of Derrybrennan, some stray finds are however recorded in the neighbouring townland of Lullymore West:

Table 14.26: Topographical Files Derrybrennan Cluster

Townland	Reg. No.	Description
Lullymore West	1943:135 1937:2375 & 76, 1999:58	Townland given as 'Lullymore' only. Wooden wheel fragment, found in a bog. Wooden felloe of a wheel. 1937:2375 - Iron shaft-hole axehead, portion of wooden handle (1937:2376) survives. 1999:58 - 'Lullymore bog', no townland. Bronze sword blade. Comprises lower part of the blade of a leaf-shaped bronze sword. Tip of blade and handle missing. Cutting edges are bevelled and cross-section is pointed oval. Found in a tractor at Bord na Mona works. Find record only: 'Lullymore E or W' - Stone axe, found during turf cutting in 1930s, c. 2ft below surface

Townland Names

The townland names within the Derrybrennan cluster are Irish in origin.

Table 14.27: Toponyms- placename meanings (townlands) within the Derrybrennan Cluster

Townland	Origin	Translation	Meaning and notes of interest
Derrybrennan	Irish	<i>Doire Uí Bhraonain</i>	'O'Brennan's oak wood'
Lullymore	Irish	<i>Loilgheach mór</i>	'great milch cow'

Field Inspection

Turbines T28-T27 are located in Derrybrennan townland on a small 'island' of high ground now used for agricultural purposes (Fig. 14.7).

Turbine T28 is located in a reclaimed pasture field, there are a few small scale gravel pits located around the periphery of the field. Plantation forestry provides a natural screen at ground level and affords an enclosed feel to the area with no views. The surface of the grass field was springy underfoot with stone and wood inclusions noted (Illus. 14.59).

Turbine T27 is located in a tillage field immediately north of a narrow forestry plantation that extends east west and acts as a wind break between these two fields. The plantation is located between dry agricultural fields (pasture to the south and tillage to the north); the area has been banked up on either side of the forestry plantation. A large agricultural shed is located to the north of the proposed turbines (Illus. 14.60).

There were no recognisable archaeological features noted on the surface of the field at either wind turbine location site. The proposed access track and cable route traverses through pasture and tillage land.

Recorded archaeological monuments

Lullymore ecclesiastical site is located 2.3km to the south of the Derrybrennan cluster the site is subject to a preservation order (PO11/1972) and is as such a national monument it is described in section 14.3.2.7 below.

Recorded archaeological monuments within 1km of the Derrybrennan cluster comprise a recorded togher sites. Three toghers (KD012-002001, KD012-003001 and KD012-004001) converge on this island which is located in an expanse of bog to the north of Lullymore, none of which have above ground visibility. These sites were investigated by Professor E. Rynne on behalf of the NMI after they were discovered by Bord na Mona in the 1960's. The bog has been extensively milled in these locations and the settings of these features have been obliterated.

The togher to the south of the island (KD012-004001) ran approximately 1,500m between the higher ground at Derrybrennan to the north and Lullymore West townland to the south, another 'island' in the bog, where it appears to be aligned with a laneway leading towards the early ecclesiastical site (KD012-006) at Lullymore. According to local reports, where the togher had been cut by turf-cutting machines, transversely laid planks (est. L c. 2.4m) had occasionally been found, particularly in areas of soft peat.

A second togher (KD012-002001) ran between higher ground in Ticknevin townland to the north and Derrybrennan townland to the south (c. 1500m in length). Rynne traced its southern limits and followed its course north for about half its length and archaeologically excavated a portion of the monument (L 9m; Wth 1m). The togher was found at a depth of c. 1.2-1.5m below the estimated original level of the bog's surface, which had been almost cut away. It was orientated on an approximately north north-west-south south-east axis and consisted of two continuous lines of parallel pairs of oak planks (av. L. c. 4.5m; Wth c. 0.4m) which were laid longitudinally on the peat and were supported at each end on transverse, oak roundwood sleepers. The planks had rectangular mortices at each end through which long (av. L. c. 0.6m) axe-sharpened oak pegs were driven to anchor them in place.

The third togher (KD012-003001) travelled between the higher ground in Ballybrack townland to the north and Derrybrennan townland to the south (est. L c. 1400m), and was known locally as 'The Dane's Road'. Rynne could only examine a short portion of the roadway and found that it was constructed of gravel and marl (Wth 3m; T 0.2-0.25m) laid down at depth of 0.5m below the surface of the uncut but shrunken bog surface. On the surface of the bog the line of the buried road was indicated running northeast-southwest by '*the more luxuriant growth of heath above it*' (10) (13).

The recorded archaeological monuments within 1km radius of the turbines within the Derrybrennan cluster and also of sites between 1-2km are listed as follows.

Table 14.28: Record of Monuments and Places sites within 1km of Derrybrennan Cluster (Fig. 14.8)

Reg. No.	Townland	Description	Location (ITM)		Turbines within 1km	Turbines within 1-2 km
KD012-004001-	Derrybrennan, Lullymore West	Road - class 1 togher	670085	727258	474m SE from T28, 419m SW from T27	N/a
KD012-003001-	Ballybrack (Kilpatrick Ed), Derrybrennan	Road - gravel/stone trackway - peatland	670805	728278	870m NE of T27,	1.3km NE of T28
KD012-002001-	Derrybrennan, Ticknevin	Road - class 1 togher	669905	728698	N/a	1.1km N of T28, 1km N of T27
KD012-016	Lullymore West	Road - gravel/stone trackway - peatland	670900	726428	N/a	1.6km SE of T28, 1.4km SE of T27
KD012-010/001-008 And KD012-020	Lullymore West	Crosses (x2) Cross-inscribed stones (x7) present location	670513 670539	725847 725884	N/a	1.8km SE of T28, 1.8km SE of T27

Protected Structures

There are no protected structures or sites of an architectural heritage significance located within 2km of the Derrybrennan cluster, the majority of structures of a recorded architectural significance are clustered and emanate from the main settlement centres in the area. Lullymore Monastic enclosure is discussed above and is also an RPS site (RPS B12-01). Of cultural heritage interest is Lullymore Lodge, located c.1.8km to the south of the cluster across the road from the access into the Lullymore monastic site. The c. 19th century lodge (replacing an earlier structure) is a private dwelling however its large courtyard of outbuildings is in use as the Bog of Allen Nature Centre, outside of which the cross slabs associated with the Lullymore Monastic site are displayed alongside a 1798 memorial (Illus. 14.61). The structure and its associated stable block/outbuildings are a fine example of a 19th century farming complex of local historic technical, social, and architectural heritage interest. The aspect of the setting that contributes to the site is its position on the roadside, its relationship between the various related structures and the lands immediately surrounding it.

14.3.2.5 Cloncumber Cluster

Introduction

The Cloncumber Wind farm is located on the southern margins of the Lullymore Bog complex on sloping, fertile land with its northern and southern boundaries largely defined by the Slate River and the Grand Canal respectively (Fig. 14.7). This narrow area of land faces south and out towards what is locally known as the 'Chair of Kildare Hills' from Kildare town to Rathangan.

The land within the site itself comprising of small, well defined fields serve as a stark contrast to the open bogland to the north and almost appear to form a buffer zone between this flat, expansive and brown landscape to the patchwork of small, well drained, undulating lush green fields and gravel deposits to the south that are interspersed with the settlements of Rathangan, Kilmeage, and Allenwood and Robertstown to the east.

The fields within the Cloncumber cluster have been subject to change over the years as witnessed on the Ordnance Survey maps and in one particular case where T6 is proposed have been amalgamated to form one large tillage field.

There are 11 turbines proposed for the Cloncumber cluster (T29–T30), two borrow pits, a compound, internal access tracks and cable routes (Fig. 14.7).

Stray Finds

The stray finds recorded in the study area indicate that there was early activity across this landscape since the prehistoric period.

Table 14.29: Topographical Files Cloncumber Cluster

Townland	Reg. No.	Description
Ballyteige North	1992:4,	1992:4, Stone Axehead found 3.5m deep bog (IA/284/1990) a polished stone axe head was found in Ballyteige South (1994:63)
Cloncumber	1942-5.	Stone structure full of hazelnuts about 12ft deep in a bog found in The find consisted of a beehive shaped stone structures about 2ft high and 1.5to 2ft in diameter at the base, when opened it was full of hazelnut shells. Nearby was found a human skeleton and the antlers of a giant Irish deer (Etienne Rynne 16/IX/1962)

Townland Names

All the townland names within the Cloncumber windfarm cluster are Irish in origin.

Table 14.30: Toponyms- Placename meanings (townlands) within the Cloncumber Cluster

Townland	Origin	Translation	Meaning and notes of interest
Ballyteige North	Irish	<i>Baile Taidhg</i>	Teige's town'
Cloncumber	Irish	<i>Cluain a chomhair</i>	'plain or lawn of the confluence' OS Parish Name Bk: '...a fort...in the west'
Drumsru	Irish	<i>Druim sruth</i>	'hill of the stream'
Feighcullen	Irish	<i>Fiodh chuillinn</i>	'holly wood'
Glenaree	Irish	<i>Gleann an fhraoigh</i>	'glen of the heath'

Field Inspection

Turbine T29 is located within a coniferous forestry plantation to the north of the Slate River and south of the Allenwood South Road. Both Turbines T31 and T32 are located in dense coniferous forestry to the south of the Slate River (14.7). They are located off existing tracks and there was no view at ground level as it was covered with dense undergrowth.

Turbine T30 is located in an area that has been previously felled it lies to the west and north of forestry access routes and to the south of the Slate River. The area has been heavily disturbed and no ground visibility could be obtained due to the growth of vegetation. These forestry plantations are located on former bog as shown on the first edition OS mapping. A denuded enclosure (KDO12-021 in Ballyteige North) is located in grassland to the northwest and is c. 562m from its closest visible boundary to the turbine site. The site now presents only as a cropmark consisting of a double enclosure on the south bank of the River Slate. An additional possible subsurface site was identified by aerial photography to the north of the river consisting of a small oval enclosure.

Turbine T33 is located in a large open arable field; the day was foggy affording limited views. A ringfort (KDO17-004) occupies a prominent position in this large field; T33 is approximately 60m north-northeast from the outer bank of the site (Illus. 14.62 and 14.61). It is located on a low, gently sloping, east-west ridge. This field has been previously cleared, with smaller fields amalgamated into one huge field, as shown on the 1st edition OS 6-inch mapping, these can be seen as cropmarks on aerial photography. Originally the ringfort was surrounded by bog to the northwest and southwest and it was located along a field boundary to the southwest. Three fields of drier ground are shown immediately to the east of this site before the land returns to wetter, boggy ground as illustrated on the map. This area may represent a small island of fertile or reclaimed land otherwise surrounded by bog. The historic map also shows a settlement consisting of four structures and a laneway providing access from the canal to the south is located to the south east of the monument that are no longer present.

The monument was described in 1972 as a roughly circular ringfort (int. diam. 36m) of a platform type surrounded by a fosse with traces of a bank with an entrance on the northern side. It stands raised above the surrounding ground (1-2m high) and is now completely planted with trees making access impossible. Along the northern perimeter field clearance material has been dumped. The ringfort presents today as an oval feature in a deeply ploughed field with large boulders placed up against the banks, exaggerating the size and appearance of these now substantial banks. The site is in a perfect position or deliberately placed to take full advantage of the views to the southeast and west with a more restrictive view shed to the north. The proposed turbine is located just 60m to the northeast of this monument. A compound is proposed c. 114m downslope of the ringfort to the southeast.

Turbine T35 is located into the southeast corner of a field used for grazing. The site is nestled into a dip along a field boundary that has been opened to provide access to a field to the east.

Turbine T36 is in a field flat pasture with a windbreak of pine trees located to the southeast, the turbine is located in a large field surrounded by drainage ditches. A former mill race forms the boundary of the field to the north.

Turbine T37 is located in flat, rough grazing field with tuft of grass present, the field is separated by deep drainage ditches and the Hill of Allen is visible to the east southeast.

Turbine T34 is in poor pasture land, located immediately north of a former millrace (described below) associated with the former Sally Mill to the east of Rathangan, as shown on the 1st edition OS 6-inch mapping. The ground is rough, underfoot with long reeds present. The land to the south of the millrace and along the access route has been previously disturbed and appears to be mounded with number of low growing scrub trees.

Turbine T38 is located along a former mill race in the interior of agricultural lands consisting of rough grazing pasture fields. The underlying soil is dark brown and boggy in nature and very uneven underfoot, the ground had been extensively pockmarked by animals. There is a trackway leading to the former millrace and a clump of trees shown on the historic maps. This field was formerly bogland.

Turbine T39 is located in a low-lying field adjacent to the northern side of the Grand Canal – (Barrow Branch). It is located in a large pasture field to the west of an existing track and there are no discernible archaeological or historical features. Bushfield House (RPS B17-09, Illus. 14.64) is located across the canal to the southeast at a distance of approximately c.305m while Glenaree Bridge and Lock 22 (RPS B17-16, Illus. 14.65) along the Grand Canal Barrow Branch is located c.565m to the southwest.

The internal access track in Ballyteige North townland is located within a forestry plantation largely located along existing forest tracks. The access track to Turbine T29 crosses the Slate River via an existing bridge and travels through forest stands in an east-west direction to the north of the Slate River. Short stretches of access route will have to be constructed within the forestry plantation to gain access to Turbines T30-32.

The access track between T34–T38 runs immediately adjacent to the eastern end of a very long former mill race (KDIAHS Ref 017-003) associated with the 18th century Sally Mill on the eastern edge of Rathangan, which travels 6km eastwards and through the cluster lands before flowing into the Slate River. The mill race is marked as disused by 1907-9, it is in use as a drainage ditch and is regularly cleaned out. It is marked on Taylors 1783 map and an 1810 Bog Map as a river which might suggest that the Mill Race may have been formed by straightened and/or dredged natural stream (44). It is considered to be a feature of local historical merit. The mill race is crossed in three locations places by the access tracks/cable routes (CH9, CH10 and CH11, Fig. 14.7). It is overgrown in places and has been dredged out in recent times (Illus. 14.66).

The proposed access track continues through the forestry from Turbine T32 and travels south-westerly direction skirting along field boundaries to Turbine T33 and continues over a deeply cut watercourse which forms the Urban District Boundary to Turbine T34. It follows an existing track to turbine T35, which was a former avenue to Cloncumber Lodge (as shown on the 1st ed. OS 6-inch map). The lodge has long since been demolished and is replaced by a concrete standing and agricultural sheds. Access track continues from Turbine T34, again skirting field boundaries and diverging to turbines T36–T39.

There are two clusters of borrow pits proposed for the Cloncumber site. One is located adjacent to the canal on the southern site boundary and partially covers three fields. This area was field walked and no features of an archaeological derivation were noted on the surface of the fields. The other proposed borrow pit is located to the northeast; it occurs as two distinct sites both located in pasture level fields. No archaeological finds were identified during the field survey in this area.

A compound is proposed in Cloncumber townland to the southeast of a recorded ringfort (KD017-004) (c. 240m). It is located in a field that slopes to the south and the Grand Canal. A number of remnant field boundaries appear as cropmarks in the field, these boundaries can be traced to smaller field systems as shown on the first edition OS 6-inch mapping.

Table 14.31: Cultural Heritage/Archaeological features identified during field work (Fig. 14.6)

CH. No.	Townland	Description	Location (ITM)	Location (ITM)	Distance
CH9	Cloncumber	Millrace	671765	722463	Access track/cable route crossing
CH10	Cloncumber	Millrace	671406	722481	Access track/cable route crossing
CH11	Cloncumber	Millrace	671303	722411	Access track/cable route crossing

Recorded archaeological monuments

There are two recorded monuments within the Cloncumber cluster one of which is a redundant record and is recorded as a find spot of a saddle quern (KD017-040, Illus. 14.67). The reason for its delisting is that while it is possible of being indicative of habitation, it is classified in the record as an artefact and its find spot was subsequently 'delisted' from the RMP in 1995. It demonstrates however the archaeological potential of the field.

The other site is a ringfort (KD017-004, described above) just 60m northeast of T33 which is described as being located on a low, gently sloped, east-west pasture ridge in an extensively cleared and now huge field, surrounded by bog to the northwest through to the southeast. Described in 1972 as 'a roughly circular ringfort (int. diam. 36m) of platform type, surrounded by a fosse and traces of a bank (with) an entrance on the northern side' (13). As discussed above the monument stands raised above the surrounding ground (H 1-2m) but is completely planted with pine trees, except along the northern perimeter upon which cleared field-material is dumped (Illus. 14.62 and .63). Its relationship with the river would have been an important aspect. The ringfort lies in a landscape, that has with the advent of the canal and Bord na Mona works, changed considerably over time. The significance of the setting is its commanding position over the low-lying landscape and its relationship with the River Slate to the north.

There are five RMP sites that lie outside the wind farm cluster land parcel but within 1km of the turbines a moated site, two ringforts and two enclosure sites. The moated site in Drumsru (KD017-003) is located c. 611m northwest of T33; it lies adjacent to the river Slate in land that is reclaimed from the bog. It is completely overgrown and is for the most part inaccessible (Illus. 14.68). The ringfort sites within 1km are poorly preserved examples within fields of pasture, KD017-002 presents as very poorly preserved, slightly raised, oval area defined by long, low scarp in a field of pasture, and KD017-002 is large, poorly preserved, sub-circular area which is defined by a low earthen bank to the southeast through to the north-northwest which is hedged as a field boundary, and by a shallow outer fosse. The two enclosure sites (KD017-047 and KD012-021) are features that were identified in aerial survey and have no above ground presentation. The key aspect to the settings of these sites is their relationship to the River Slate to the south, there is no intervisibility between these monuments in the present day landscape.

Table 14.32: Record of Monuments and Places sites within the Cloncumber Cluster

Reg. No.	Townland	Description	Location (ITM)		Turbines within 1km	Turbines within 1-2 km
KD017-004	Cloncumber	Ringfort - rath	672718	723224	60m SW of T33, 537m NE of T34, 637m NE of T35, 998m NE of T36,	1km SW of T32, 1.5km SW of T31, 1.8km SW of T30, 1.6km SW of T29, 1.1km NW of T37, 1.6km NW of T38, 2km NW of T39
KD017-003	Drumsru (Kilmeage North ED)	Moated site	672158	723377	611m NW of T33, 733m NNW of T34, 463m NNE of T35, 952m NNE of T36, 833m NE of T37,	1.9km SSW of T31, 1.4km SW of T32, 1.3km NE of T38, 1.8km NE of T39
KD017-002	Drumsru (Kilmeage North ED)	Ringfort	671725	723179	461 NW of T35, 895m NW of T34, 803 NNW of T36, 464m NNE of T37, 946m NE of T38,	1km W of T33, 1.4km NNE of T39, 1.9km W of T32
KD017-001	Cappanargid	Ringfort	670710	722383	485m NNW of T39, 487m W of T38, 977m SSW of T37,	1.3km W of T36, 1.4km SW T35, 1.8km SW T34, 1.3km E of T36
KD017-047	Cloncurry (Offaly East By.)	Enclosure	670925	721009	900m S of T39	1.4km SW of T38, 1.8km SSW of T37, 1.8km SW of T36
KD012-021	Ballyteige North	Enclosure	674528	724906	562m NE of T30, 974m NE of T29, 965m NE of T31,	1.4km NE of T32
KD012-007	Barnaran	Road - gravel/stone trackway - peatland	670875	724029	N/a	1.6km NNW of T35, 1.5km NW of T37, 1.6km N of T38, 1.9km NW of T36,

Reg. No.	Townland	Description	Location (ITM)		Turbines within 1km	Turbines within 1-2 km
						2km NW of T33
KD012-018	Drumsru (Kilmeage North Ed)	Structure - peatland	672119	724322	N/a	1.5km W of T29, 1.9km NW of T30, 1.8km W of T31, 1.4km NW of T32, 1.2km NW of T33, 1.4km N of T35, 1.6km MME of T34, 1.8km N of T36, 1.6km NNE of 1.6
KD012-019	Drumsru (Kilmeage North Ed)	Platform - peatland	671539	724561	N/a	1.7km NW of T33, 1.7km NNW of T35, 1.8km N of T37
KD013-020, KD013-020001-	Ballyteige North	Castle - tower house, Inscribed stone (present location)	675234 675234	724239, 724239	N/a	1.2km SE of T30, 1.3km E of T31, 1.6km SE of T29, 1.7km E of T32
KD017-007/001-002	Cappanargid	Church, Graveyard, Ecclesiastical enclosure	669869	721401	N/a	1.2km SW of T39, 1.6km SW of T38
KD017-008 KD017-008001-	Cloncurry (Offaly East By., Cloncurry Ed)	Church and Children's burial ground	670483 670482	721046 721048	N/a	1km SW of T39, 1.4km SW of T38,
KD017-009001-005	Feighcullen	Church, Field system (-002) Church (-003), Ecclesiastical enclosure(-004), Graveyard (-005)	672729	720915	N/a	1.8km S of T34, 1.7km SE of T36, 2km SW of T37
KD017-019	Drinnanstown North	Castle - unclassified	670815	720180	N/a	1.7km S of T9
KD017-043	Drinnanstown North	Mound	671475	720619	N/a	1.4km SE of T39, 1.7km S of T38, 1.9 SSW of T36

Protected Structures

The Cloncumber cluster is located on sloping ground overlooking the Grand Canal-Barrow Branch and the low-lying fertile and well settled lands to the south of this. There are two protected structures, both metal footbridges (RPS B17-05A and B17-05B) over the Slate River on and just within the northern site boundary of the cluster (Illus. 14.69). They are said to belong to a former mass path and locals say that the footbridges provided access from the barracks at Lullymore to the chapel at Allen, there is no indication that this path still survives. They are of technical and social interest and have quite an immediate setting given that the mass path and any visible routes are now long since gone.

Bushfield House (RPS B17-09, Illus. 14.64), is a Classical-style house, symmetrical in plan consisting of a detached 5-bay over part basement with dormer attic. It is located on low-lying land to the south of the Grand Canal. It is 19th century in date (c.1860) and its façade is oriented southwest (front) with views of an open field and the road to the west. Its gable end is to the canal. It has a roughcast boundary wall surrounding the site; it is accessed from the west via a road to the south of the Grand Canal. The scale and fine detailing of the house suggests that it was originally built by a patron of considerable status in the locality, and it is therefore of some social and historic significance. To the rear (northeast) is a full height canting projecting bay to centre. The original outbuilding to the north is also of importance and the early construction in mass-concrete is of some technical interest, there are several other modern sheds located to the east and south of the structure. The house retains much of its original character, features and materials. From the road to the west there are views of the front façade of the house which is an attractive feature in the flat landscape. The mid-size farmhouse is of architectural, social and historical interest, the elements of its setting which contribute to its significance is not considered to extend far beyond the house itself, its outbuildings, entrance ways, and the fields immediately surrounding it. It does not appear to have any functional or aesthetic relationship with the canal. Turbine T39 is located c. 305m to the north northeast of Bushfield House and north of the canal.

Glenaree Bridge and Lock 22 (RPS B17-16, Illus. 14.65) along the Grand Canal Barrow Branch is located 565m to the southwest and Agar Bridge (RPS B17-15, Illus. 14.70) is located 755m to the west from the cluster.

Ballyteige Castle (RPS B13-01) is recorded as a folly in the NIAH record dating to the 1860's. It was built by the Aylmer family of Donedea. The site is recorded in the RMP as a monument and tower house (KD013-020) and is described as a fairly well-preserved four-storied structure with modern alterations having been lived in till 1970s. The site is shown as '*Ballyteige Castle*' on the 1st edition OS 6-inch mapping (1837-43). It is described in the NIAH as a folly. On J.Noble & J.Keenan 1752 map '*Bally Teague*' castle is shown as an isolated structure to the south of the River and the expanse of bog, the original historic setting of the castle has changed considerably since the 18th century with the Grand Canal and numerous spurs and canal feeders run immediately south of east and north of it, the lands associated with the castle in the 1st edition map appears more extensive and access to the bog to the north is maintained, the castle stands relatively isolated with a couple of structures adjacent to the entrance to the property, however by the revised edition the castle is incorporated into a courtyard farm complex. It is set back within its own grounds and is associated with a collection of outbuildings, sheds and a modern house (Illus. 14.71). It is of both archaeological and historic importance. The views from the castle are limited as the landscape around it is very flat, however because of this it presents as a prominent landmark in the locality and forms part of a picturesque group with the bridge to the canal nearby (RPS B13-08). The castle can be seen along the tow path and road along the canal, it however is screened by vegetation for the most part and there is a large modern house immediately adjacent, the best view is just before a modern canal bridge crossing adjacent to it. The castle is located 1.2km to the southeast of the cluster. The site is of architectural, archaeological, historical and social significance being in use from the Anglo Norman period up to the present day. The contribution of the setting to the sites significance includes its associated complex of outbuildings in its immediate vicinity and the low-lying fields that are immediately surrounding it. Its presence along the canal – though unrelated enhances the visual amenity of the area.

Protected structures that lie over 1km from the cluster include Pim Bridge (NIAH 11901801) and Huband Bridge (RPS B13-25).

There are a cluster of associated early-mid nineteenth century protected structures in Feighcullen townland on a road travelling along the northern slopes of Boston Hill c.1.7km to the south of the wind farm, comprising Feighcullen House (RPS B17-10) and Feighcullen Glebe House (RPS B17-11) and such as Feighcullen Church of Ireland. Feighcullen House (RPS B17-10) is indicated as a Glebe House on the 1st edition map. It is a detached 3-bay 2-storey over raised basement with dormer attic, c.1830, the house is oriented to the southwest and has and appears to have a planted area in the rear garden to the. Set back from road in own landscaped grounds. Detached 3-bay 2-storey rubble stone outbuilding, c.1830, to west. Feighcullen Glebe House (RPS B17-11) is located to the east of the glebe, it is a detached 3-bay 2-storey limestone-built house, dated to c.1830, on an L-shaped plan with single-bay 2-storey return to rear to north-west. It was subsequently in use as rectory. It is set back from road in own landscaped grounds and has stone outbuildings. Feighcullen Church (former), (RPS B17-07) (Illus. 14.71), designed by John Semple, is a very fine example of the early Gothic Revival style. The church is set at the end of an informal avenue and is a landmark from the road. Of social and historical interest, the church attests to the once prosperous Church of Ireland community in the area. It is surrounded by a shelter belt of mature trees.

These houses, the former rectory and glebe house are an associated group of structures related to the Church of Ireland, they are therefore of architectural, social and historical interest. The setting of the structures which contribute to their significance comprises the neat group of structures and associated landscaped gardens, access ways, boundaries and their relationship the road and also between the two houses and the Church of Ireland Church to the east.

Table 14.33: Protected structures/NIAH sites within 1km and 1-2km of the Cloncumber Cluster

Reg. No.	Townland	Description	Location (NGR)		Turbines within 1km	Turbines within 1-2 km
RPS B17-05A	Drumsru	Footbridge	272538 Revised Location	223462 Revised Location	480m W of T33, 613m NNW of T34, 432m NNE of T35, 868m NNE of T36, 859m NE of T37,	1.9km SW of T31, 1.8km SW of T29 1.3km SW of T32, 1.4km NE of T38, 1.8 km NE of T39
RPS B17-05B	Drumsru	Footbridge	272228	223269	602m W of T33, 661m NNW of T34, 385m NNE of T35, 859m NNE of T36, 776m NE of T37,	2km SW of T31, 1.8km SW of T29 1.4km SW of T32, 1.3km NE of T38, 1.7 km NE of T39
RPS B17-09, NIAH 11901704	Glenaree	Bushfield House	670694 Revised Location	721516 Revised Location	305m SW of T39, 998m S of T38,	1.5km SSW of T37, 1.6km SSW of T36, 1.9km SW of T35
RPS B17-16, NIAH 11901703	Glenaree	Glenaree Bridge and Lock 22 – Grand Canal Barrow Line	270652	221517	536m SW of T39,	1km S of T38, 1.6km SW of T36, 1.5km SSW of T37,
RPS B17-15, NIAH 11901702	Glenaree	Agar Bridge	270324	221673	755m SW of T39,	1.1km SW of T38, 1.6km SW of T36, 1.7km SW of T37, 1.6km SSW of T34, 1.9km SW of T36
RPS B12-02, NIAH 11901201	Allenwood Middle	Shea Bridge, also known as Shee and Scow Bridge, Grand Canal Main Line	274825	226425	N/a	1.9km NE of T39
RPS B13-01, NIAH 11901309 (RMP KD013-020, KD013-020001)	Ballyteige North	Ballyteige Castle	275320	224222	N/a	1.2km SE of T30, 1.3km E of T31, 1.6km SE of T29, 1.7km E of T32
RPS B13-25, NIAH 11901307	Grangeclare West	Huband Bridge also known as Greene's Bridge, Grand Canal	275882	224435	N/a	1.2km SE of T30, 1.8km E of T31

Reg. No.	Townland	Description	Location (NGR)		Turbines within 1km	Turbines within 1-2 km
		Barrow Line				
RPS B17-07, NIAH 11901706	Feighcullen	Feighcullen Church of Ireland Church	272795	220890	N/a	1.8km S of T34, 1.6km SE of T36
RPS B17-10, NIAH 11901707	Feighcullen	Feighcullen House	272485	220834	N/a	1.8km SE of T39, 1.9km SE of T38, 2km SE of T37, 1.6km S of T36, 1.9km SSW of T34
RPS B17-11, NIAH 11901708	Feighcullen	Feighcullen Glebe House	272279	220761	N/a	1.7km SE of T39, 1.8km SE of T38, 2km SE of T37, 1.6km S of T36, 1.8km SSW of T34

14.3.2.6ACA's within 5km of the Maighne Wind Farm

Rathangan is located just over 4km southwest of the Cloncumber cluster. There is an Architectural Conservation Area defined within the town (Fig. 14.3 and Illus. 14.72). To the east the ACA comprises the buildings around the junction of Chapel St, Bridge St and Market Square including the Parochial Hall and includes all the structures fronting Main St to Rathangan Lodge to the west (on the R419) and to the R401 in the vicinity of the large ringfort site on the western side of the town. The ACA contains many protected structures (RPS B17-18 to B17-43) and NIAH sites including two public houses, four bridges, a parish hall, Garda station, church, mill, two warehouses, and thirteen houses (as listed in Appendix L3). As described above Rathangan has an Anglo Norman origin (RMP KDO17-011) its character however is formed by late 18th century three and two storey terraced houses that form the core streetscape of the earliest part of Rathangan and by early 19th century structures. The development of the town was associated with the advent of the Grand Canal and milling enterprises along the river Slate (Illus. 14.73).

The significance of the ACA lies in its 19th century character and appearance. The town is characterised by its streetscape, its architectural merit of the buildings within it and their interrelationships and intervisibility. Views outward into the landscape beyond the town do not contribute to its visual character or its significance.

14.3.2.7National Monuments within c. 5km of the Maighne Wind Farm

There are two archaeological sites that are considered national monuments within a 5km radius of the wind farm Carbury Hill and Lullymore monastic Complex. There are also a further three sites just outside the 5km radius of the windfarm that are also considered in this assessment (Fig. 14.1)

Table 14.34: National Monuments within c.5km of the Maighne Wind Farm (measured from outer edge of monument)

Site	Status	Location (ITM)		Distance from the cluster (closest turbine)
Carbury Hill Complex	The mortuary chapel at Carbury Hill is in the vested care of Kildare County Council	668624	735082	7.9km S of Ballynakill 2.1km S of Windmill 4km E of Drehid-Hortland 7km N of Derrybrennan 11km N of Cloncumber
Lullymore Monastic Site	Preservation order (PO11/1972)	671014	725505	17.6km of Ballynakill 12km of Windmill 8km SW of Drehid-Hortland 2.3km S of Derrybrennan 2.7km N of Cloncumber
Grange West	Nat. Mon. No. 629; KD002-007 RPS B02-03	662027	736498	9km SW of Ballynakill 5.7km W of Windmill 11km NW of Drehid-Hortland 12km NW of Derrybrennan 15.5km NNW of Cloncumber
Carrick Castle	KD002-009; RPS B02-01	663987	736856	7.6km SW of Ballynakill 3.7km W of Windmill 9km NW of Drehid-Hortland 11km NW of Derrybrennan 16.5km NNW of Cloncumber
Donore	National Monument No 232, ME041-008 Ownership	670213	749786	5.3km N of Ballynakill 12km N of Windmill 13.5km NNW of Drehid-Hortland 22km N of Derrybrennan 25km N of Cloncumber

Carbury Complex

Carbury Hill is one of a number of low limestone hillocks that are found in the Bog of Allen providing a dry and easily fortified site for early inhabitants (14). The remains of a mortuary chapel on the southern slopes of the hill is in the vested care of Kildare County Council and as such is a National Monument. Carbury Hill is a dominant land mark in this area, with a fortified house prominently sited on the northern shoulder of the hill, being very distinct feature in the immediate landscape (Illus. 14.74). The mortuary church and graveyard is located on a plateau to the south of this (Illus.14.75). There is access to the church and castle site through fields at the northern end of Carbury Village.

The complex consists of a multi-period site which is situated on high ground with excellent views overlooking the surrounding landscape. The archaeological context of the various sites on the hill is described in Section 14.3.1.3–14.3.1.8 above. It comprises the following monuments KD008-00102 (castle), -00103 (fortified house), -00104 (designed landscape), -00105 (church), -00106 (graveyard), KD008-003 (mound barrow), KD008-004 & -005 (ring-barrows), KD008-00101 (motte), -00107 (mausoleum), -00108 & -00109 (wall monuments), KD008-00602 (graveyard), KD008-018 (armorial plaque). The castle, motte, church & graveyard, barrows are also designated protected structures (RPS B08-01, -03, -02, -04) (Illus. 14.76 and 14.77).

There is evidence for Bronze Age activity on the Hill and the castle was continuously occupied (firstly as a motte, then tower house and a fortified residence) through the medieval period up to the Elizabethan Period when it was abandoned in favour of a newly built Palladian mansion in Newberry Hall to the southeast (Illus. 14.78). Given the number of multi-period archaeological sites and features on the hill representing almost all phases of archaeological activity it viewed as a hilltop complex for the purposes of this assessment.

From the summit of the hill at the castle there are excellent views of the surrounding landscape. In 1849 Wilde describes the views from the summit of this Carbury hill:

'a most commanding and extensive prospect, extending over the counties of Dublin, Kildare, Meath, Carlow, Westmeath, King's and Queen's Counties, with the hills of Allen, Carrick, Balrennet, Edenderry, and Croghan, standing up'

and referring specifically to historic remains he describes the view of:

'the ruins of some of the ancient castles of the Anglo-Normans bursting through the surrounding foliage. Towards the north-east, on the approach from ...field we see the tall tower of Mylerstown castle, another strong- hold of the Berminghams already referred to ; and in the parish of Ardkill, about a mile from the adjoining village of Carbery, the foundations of another castle, of which not even the name now remains ; and the site of another fortress is pointed out near the mill in the parish of Clonkeen, midway to Edenderry : all showing the military importance of this district in former times. Edenderry, and the castles of Kinnafad and Carrick, form prominent objects as the eye sweeps round from south to west'. (20)

In the intervening 160 years or so the immediate landscape experienced by Wilde has been altered, a train line once ran across the northern foothills has long since been removed, the 'tower' at Mylerstown is now a low ruin and cannot be seen, there are little remains of Ardkill and Carbury bog has been industrially milled and power lines cross to the north and east of the site between the graveyard and the castle.

The later fortified house that replaced the castle is historically associated Newberry Hall (RPS B08-10, *cf.* Section 14.3.1.8) a large intact demesne to the southeast which considered a key intervisibility view from the castle and vice versa. The Historic relationship between Carbury, Carbury Village and Newberry Hall demesne is significant and an important part of the setting of the site.

The contribution made by the hilltop setting to the significance of the site is that it provides an understanding of the importance of the site from the Anglo Norman period as a visually dominant and defensible site that was visually and physically dominant over the surrounding Anglo Norman landscape. Its hilltop location also has ritual significance in the prehistoric period.

The proposed Maighne Wind Farm lies to the northwest, north, east and southeast of Carbury Hill. The Windmill cluster is c. 2.1km to the north-northwest, the Ballynakill cluster c.7.9km to the north, the Drehid-Hortland cluster is further at c.4km to the east and southeast and further again is the Derrybrennan and Cloncumber clusters are located c. 7km and 11km south (Fig. 14.1).

Lullymore Ecclesiastical (Monastic) Site

Lullymore ecclesiastical site (Illus. 14.79) which is subject to a preservation order (PO11/1972) and for the purpose of this study is treated as a National Monument given its significance in the landscape. The ecclesiastical monument of Lullymore (KD012-006001-011) comprises the remains of a large poorly preserved, roughly D-shaped enclosure (Illus. 14.80). This contains a second, smaller, irregular-shaped enclosure, which itself contains a possible church site and a graveyard. This is abutted along the south by a third, rectangular enclosure, to the north of which lies a possible field system. There is also a bullaun on the site, together with three cross-inscribed stones (Illus. 14.81). Eight additional cross-inscribed stones (KD012-010, 010001 to 010005, 010008 and KD012-020) and two small crosses (KD012-010006 and -010007), originally in the graveyard, are now incorporated into a 1798 memorial c. 600m to the northwest in Lullymore West in the Bog of Allen Nature Centre Museum (Illus. 14.61). An un-located holy well (KD012-006008-) also appears to have been associated with the site. The archaeological context of Lullymore ecclesiastical site is described in Section 14.3.1.3–14.3.1.8 above.

Access to the site is provided via a long farm access track. According to locals the monastic site was heavily denuded in the 1980's but has recently been sensitively tidied with a new access path provided. A modern stone wall with three inscribed slabs inserted into the wall surrounds the graveyard. The graveyard centrally located within a large neat open green space surrounded by curving mature field boundaries. Remnants of outer enclosures are present in the surrounding grass field as subtle undulations barely discernible on the grass surface and a large stone lined ditch and bank surmounted by mature trees form the outer boundary. A memorial of St Patrick's footprint marks the site of the monastery established here by St. Erc in the 5th century AD. This memorial was erected in 2007 and also appears to be positioned on the line of the inner enclosure that immediately surrounds the graveyard.

Views from the site are open to the west and south and past the northern treeline bank are extensive. A mature treeline now forms the view to the east. While denuded, the character and significance of this site can still be discerned and the sense of place retains an air of tranquillity and peacefulness within the surrounding changing landscape.

The aspect of the setting that contributes to the significance of the site is primarily the enclosure itself, its access (indicating how isolated the feature is) and the low-lying lands/bog isolated lands immediately surrounding it which contained trackways leading to the site. However the industrialised milling of the boglands has considerably altered the wider landscape around it.

The proposed Maighne Wind Farm lies to the north, northeast and south of Lullymore ecclesiastical site. The Derrybrennan cluster lies 2.3km to the north and Cloncumber and c.2. 7km south (Illus. 14.82). Ballynakill, Windmill, and Drehid clusters are located is c. 17.6km, 12km and 8km respectively to the north-northeast (Fig. 14.1).

Grange Castle

Grange Castle and bawn in Grange West is a national monument in state ownership (Nat. Mon. No. 629). It comprises a late medieval/post-medieval tower-house enclosed by a bawn of Grange Castle to the north and east of the tower house (RMP KD002-007, RPS B02-03) which is occupied by a series of later courtyards, outbuildings, and walled gardens. The tower in the castle is restored however there is currently no public access to the site, the area in and around the castle is currently overgrown and unkempt (Illus. 14.83). Excavations in the vicinity of the bawn have shown that there are traces of a corresponding bank and fosse overlain by a later wall defined the northern-side opposite (57).

The significance of the site now lies in its intactness and the ability for its restored remains to appreciate and understand the living and working environment of the tower house and their contribution to the local economy of the period. The setting of the site does not extend much beyond the grounds of the enclosed castle walls and to the fields surrounding it, though there would be views of the surrounding landscape from on top of the restored tower.

Grange Castle and bawn in Grange West townland is located c. 5.7 km to the west of the Windmill cluster and 9km to the southwest of the Ballynakill cluster. It is 11km northwest of the Drehid-Hortland cluster, 12km northwest of the Derrybrennan cluster and 15.5km north northwest of the Cloncumber cluster (Fig. 14.1).

Carrick Castle

Carrick Castle (a hall house) is vested in the care of the County Council (RMP KD002-009; RPS B02-01). The site is prominently sites on the upper south facing slope of Carrick Hill in the southeastern corner of a field by the road side it is downslope from a feature called the 'witches stone' (RPS B02-04) located on the summit of Carrick Hill which almost quarried away. Carrick castle (Illus. 14.84) comprises poorly preserved remains of a later 13th-14th century hall house with a later tower attached to the southeast. It is associated with an ecclesiastical enclosure, church and graveyard (KD002-01001, 02 & 03; church is also RPS B02-05) that lies to the south of the castle. A modern house has been erected to the south of the site.

The setting of the site comprises the church and the hill itself. It was sited on the hill for defensive purposes and perhaps to have dominance over the surrounding landscape. There may possibly, as Wilde suggested (ibid), have been a visual link with Carbury and Mylerstown (now low ruins) which may have formed a chain of defensive sites on the low hills all the way to Edenderry (however Knockcor Hill may have disrupted this view). It is likely that these were sequential links rather a continuous sightline. The Windmill Wind farm lies further north of any line of site that might have existed between these castles.

The castle is located 3.7km to the west of the Windmill cluster, c. 7.6km to the southwest of the Ballynakill cluster, c. 9 km west of the Drehid-Hortland cluster, over c. 11 km northwest of the Derrybrennan and Cloncumber clusters (Fig. 14.1).

Donore Castle

Donore Castle (ME041-008, RPS MH041-108), a fifteenth century tower house is a national monument in ownership of the state (NM 232). In 1429 King Henry VI gave a grant of £10 to every castle that was built in the counties of Meath, Dublin, Kildare and Louth with specified dimensions of twenty feet long, sixteen feet wide and forty feet high, it is thought that Donore was one such castle. It lies on the northern banks of the river Boyne in the townland of the same name. It is located in the southwestern corner of a field of pasture bound by mature field boundaries. It is accessed via a style on the roadside; there is no safe access to the upper levels of the castle and no clear or elevated views of the distant surrounding landscape.

Its existing setting does not extend much further than the surrounding fields, which includes the site of a Dominican Friary and its proximity to the river.

The castle is located 3.7km to the west of the Windmill cluster, c. 5.3km north of the Ballynakill cluster and 12km, 13.5km, 22km and 25km north of the Windmill, Drehid-Hortland, Derrybrennan and Cloncumber clusters (Fig. 14.1).

14.3.2.8 The wider landscape: Accessible Sites on prominent accessible hilltop locations within the ZTV

The following publically accessible sites within the ZTV are located on prominent accessible locations with views into the wind farm (Fig. 14.1). The wind farm lies within the wider modern landscape surrounding these sites, at distances of 9.6km and up to 31km are well outside the settings of these sites, or the area which contributes to the significance of the monuments:

Table 14.35: Accessible sites on prominent locations

Site	Status/Ref	Location (ITM)		Distance from the closest cluster
Croghan Hill Complex, Co Offaly	Recorded Archaeological Monument Complex RMP OF010-004001-009	648044	733136	c. 20km W of the Windmill cluster
Trim Castle, Co Meath	Nat. monument Ref.: 514, ME036-048004	680189	756726	c. 16km NNE of Ballynakill cluster
Hill of Ward (Tlachta), Co Meath	Nat. monument Ref.: 514, RMP Ref: ME036-048004	673526	764566	c. 20km N of the Ballynakill cluster
Kildare Round Tower, Co Kildare	Recorded Archaeological Monument RMP KDO22-029020	672748	712506	c.10km S of Cloncumber cluster
Rock of Dunamase, Co Laois	National Monument Ref.: 615, RMP LA013-052	652943	698204	c.30km SSW of the Cloncumber cluster

Croghan Hill, Co Offaly

Croghan Hill (RMP OF010-004001-009) dominates an otherwise flat bogland landscape and has been the focus of human activity since the prehistoric period. It has a with a complex of archaeological sites recorded on it, including: a burial mound and possible hillfort on its summit, ecclesiastical remains, earthworks and cultivation ridges on its higher slopes; and on its lower slopes, a ring-barrow, Croghan Castle, a medieval church and the deserted medieval settlement at Cannakill, on the western side of the hill which is a National Monument. The most famous discovery is that of the Iron Age bog body near Croghan Hill (Old Croghan Man), which lies on the foothills in Raheenbog. The views from the site are excellent and extend from north to west to south. The bogland to the north which contains the Mount Lucas Wind Farm is comparable the landscape of the southern clusters of the study area. The complex lies c. 20km west of the nearest turbine in the Windmill cluster.

Trim Castle, Co. Meath

Trim Castle (Nat. monument Ref.: 514) is located in southeastern corner of the town was built between 1170 and 1205 on the site of a ringwork (ME036-048033) with a deep surrounding fosse or ditch. It represents one of the most important medieval strongholds in County Meath and was its administrative centre during medieval period. Trim castle is located on a high point in the town on the southern banks of the river Boyne. Its elevated defensive position was sited to have control and strategic position over the Boyne and the surrounding landscape. This national monument is managed by the Office of Public Works on behalf of the Minister for Arts, Heritage and the Gaeltacht. The keep of the castle is publically accessible and is open for tours. The castle complex lies c. 16km north-northeast of the Ballynakill cluster.

Tlachta/Hill of Ward, Co Kildare

The Hill of Ward is located c. 20km north of the Maighne Wind Farm. It comprises a quadrivallate ringfort on the summit of the Hill of Ward is which functioned as a high status ceremonial enclosure (National Monument Ref.: 150, ME030-001). The remains of four substantial banks enclose a diameter of c.140m. The monument bears the name of *Tlachtga*, the legendary sorceress for whom the hill is named (58). The site occupies the highest point towards the southern end of the ridge in a field of pasture. The site is reputedly the birthplace of Halloween and home to a long-standing Samhain fire-festival (celebrated on October 31/November 1, the start of the Celtic year).

Today many visitors come to the hill on Halloween night. The key views to potentially associated sites are located to the north i.e. the Hill of Lloyd, Teltown and sites within the Tara catchment to the southeast. The hill lies c. 20km north of the Ballynakill cluster.

Kildare Round Tower, Co. Kildare

The early medieval tower (RMP KD022-029020), located within an urban environment within the town of Kildare. It is an important landmark in the town. There is access to the now turreted roof. The site is located 10km of south of Cloncumber cluster.

Rock of Dunamase, Co Laois

The Rock of Dunamase is a spectacular natural feature visible in the landscape of Co. Laois (National Monument Ref 615, LA013-052). It takes its name from the *Irish Dún Másc*, meaning the 'Fort of Masc'. Dunamase was the seat or fort of the ancient Irish kings of Laois. In 845 the fortress or dún on top of the rock was attacked by a Viking army from Dublin, who plundered several other sites in the region. Nothing of this early fortress can be seen today, but what does survive is one of the most spectacular Anglo-Norman fortifications in the country. The castle keep or hall located on the summit of the rock may have been built about 1200 by Meiler fitz Henry. It lies c.30km south-southwest from Cloncumber, the southernmost cluster.

14.3.2.9 The wider landscape: UNESCO Cultural World Heritage Sites

Brú na Bóinne a World Heritage Site is located c. 40km (measured from the outer buffer zone of the site) to the northeast in County Meath. The site lies outside the Zone of Theoretical Visibility (ZTV) of the proposed Maighne Wind Farm (see Chapter 15) and will not be visible and nor be impacted by it (Fig. 14.1 showing Brú na Bóinne UNESCO buffer zone).

14.3.2.10 The wider Landscape: Candidate World Heritage Sites on the Tentative UNESCO World Heritage Lists

Within 30km ZTV of the proposed Maighne Wind Farm there are two candidate world heritage sites that have been included on the UNESCO World Heritage Tentative List as part of The Royal Sites of Ireland assemblage (UNESCO ID No. 5528, Submission date 08/04/2010). These are the Tara Complex (located c.25km northeast in County Meath) and Dún Ailinne (located c.17km to the southwest) (Fig. 14.1).

The Hill of Tara is a celebrated tourist attraction and is accessible to the public as a National Monument in state ownership (National Monument No. 676 & 148). Dún Ailinne is a protected by the National Monuments (Preservation) Order No. 200 of 1954, under Section 8 of the National Monuments Act, 1930. The site is in private ownership and is accessible only with permission of the landowner. Both sites are considered by the State as to be of international significance.

Table 14.36: Candidate World Heritage Sites on the Tentative UNESCO World Heritage Lists within 30km

Site	Status/Ref	Location (ITM)		Distance
Dún Ailinne	National Monuments (Preservation) Order No. 200 of 1954, RMP Ref: KD028-038001-007	648044	733136	c.18km SW of the Cloncumber Cluster
Tara Complex	UNESCO ID No. 5528 National Monument No. 676 & 148 RMP Ref: ME031-033001 to ME031-033050, ME031-033053 to ME031-033080	680189	756726	Centre of the WH is c.25km NE of the Drehid-Hortland Cluster and 21km from the outer boundary of the Tara Skryne Landscape Conservation buffer zone

The Royal sites group nomination comprises sites of major royal inauguration, ceremony and assembly, representing each of the four Irish provinces: Ulster, Leinster, Munster and Connaught, as well as the region of Meath. Dún Ailinne for the kings of Leinster and Tara was the seat of the kings of Meath and the seat of the Irish high kings. The royal sites of Dún Ailinne, Tara (Breaga) and also those at Cruachain (Connaght) and Emain Macha (Ulster) were associated with the ruling dynasty of its territory and were perceived as royal places, inauguration and assembly sites, they are strongly linked to myth and legend and are associated with the transformation of Ireland from paganism to Christianity and Saint Patrick (59).

In order to be considered for inclusion on the World Heritage (WH) List a site must meet one of ten criteria to be considered of outstanding universal value and also meet the conditions of integrity and authenticity. Integrity relates to the 'wholeness and intactness' of the heritage property and how it conveys the values it holds and authenticity broadly refers to the original, authentic or true cultural expression of the values of a property, in material or conceptual form.

An official the buffer zone has yet to be established around these tentative sites. To bridge this gap and to anticipate the attributes of outstanding universal value of each of the sites, the UNESCO WH group nomination statements of OUV were examined, the contribution that the existing setting of each of the sites make to the significance of the individual site is also further examined below. The following is the UNESCO submission containing a collective statement of Outstanding Universal Value 'OUV', integrity and authenticity for the Royal Sites of Ireland nomination provided by the State to the World Heritage Convention (60). The statement encapsulates why the properties are considered to be of outstanding universal value – how it satisfies the UNESCO criteria and the requirements of authenticity and integrity.

Table 14.37: Royal Sites of Ireland nomination statements

Statement of OUV	The ensembles of monuments of the Royal Sites are universally unique through their well-preserved cultural continuity and large-scale Iron Age complexes. The Royal Sites were sacred sites and places of royal inauguration and bear exceptional testimony to Iron Age civilisation. Historically, their roots go back to the Neolithic period and they illustrate significant stages in human history through the large array of monuments ranging from Bronze Age tumuli to Iron Age ring forts and to early Christian architecture. All of the Royal Sites form part of larger archaeological landscapes characterised by a large concentration of ritual monuments. Situated on strategic and elevated locations, the Royal Sites are organically evolved relict cultural landscapes where the pre-Christian kingship in Ireland evolved and ended. The Royal sites are directly associated with Irish mythology and traditional beliefs and continue to represent spiritual and symbolic centres of Irish culture and identity, which have influenced approaches to life in many countries of the world.
Attributes expressing OUV	The State nominates that the sites fall under the following WH Convention criteria: (iii) to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared; (iv) to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history; (vi) to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance.
Integrity	Based on preliminary observation the sites appear as largely intact and to have retained their original attributes. Overall the sites are well preserved and retain high visual landscape qualities. The archaeological sites have been excavated to varying degrees (e.g. the Tara complex, major excavations under the Discovery Programme and the National Roads Authority). In the case of Cashel there have been recent restoration works on the buildings and the frescoes in Cormac's Chapel. Nevertheless, it would appear that the form, design, materials and substance of the archaeological complexes and monuments are reasonably intact. Ritual uses of the sites still occur on a small scale today, including celebrations of the Winter and Summer Solstices as well as Bealtaine and Samhain, and the tradition of agricultural use of the landscapes continues. The sites are located in largely pastoral landscapes and include hilltop locations with dramatic panoramic views, which contribute to a unique sense of character, spirit and feeling.

	To varying extent the sites have been impacted by erosion, agricultural and quarrying activity considering their rural location. However, the range of monuments and the considerable quantity of surviving earthworks across the archaeological complexes incorporates all the elements necessary to express the outstanding universal value of the royal sites. Each of the individual sites occupies a relatively large area, which is of adequate size to ensure the complete representation of the features, and processes conveying their significance.
Authenticity	<p>In terms of intangible aspects of the sites, there is a wealth of historical sources, medieval manuscripts (e.g. 'The Martyrology of Oengus', c. 830 AD; Book of Leinster, c. 1160 AD) and academic literature testifying to the mythological and legendary values of the royal sites and their role in Irish history and culture (e.g. Hicks, 2007; Bhreathnach, 2005; Rees & Rees, 1961).</p> <p>The sites are largely intact and have retained many of their original attributes. Overall the sites are well preserved and retain high visual landscape qualities and it would appear that the form design, materials and substance of the archaeological complexes and monuments are reasonably intact. The archaeological sites have been excavated to varying degrees. The sites are located in largely intact pastoral landscapes, which have contributed to the retention of a unique sense of place, spirit and feeling.</p>

Dún Ailinne and its associated prehistoric landscape including the Curragh

The heritage significance of the asset: Dún Ailinne is located 18km to the southeast of the Maighne Wind Farm (Fig. 14.1). It is a hilltop enclosure (RMP KDO28-038001) dating to the Iron Age period (7th /6th century BC). A ritual site associated with the ancient assembly site and traditionally is the seat of the kings of Leinster, the focal point of the Laigin. O'Donovan notes that Dún Ailinne in early Irish Literature as, '*a place of assemblies, a Rath with royal roads, ... a Grianan [a palace] and a Royal Dún*' (16) (13). There is currently no general public access to the site and access is through private farm lands.

The contribution made by setting to significance: The site is located on Knockaulin (c. 183m OD), a reasonably steep round-topped hill in improved pasture lands. The site overlooks the Curragh to the northwest and Old Kilkullen to the southeast and Ballysaxhills to the west. It comprises a substantial earth and stone bank (H 5m) and deep internal fosse enclosing a very large oval area (c. 37 acres) which follows the 150m contour of the hill. It has a causewayed entrance and is approached externally from the east by a revetted/kerbed roadway which continues to the summit of the monument. Internal features include an enclosure thought to be a rath (-006) and 'St John's Well' (-002). From 1968 to 1975, seasonal archaeological excavation and geophysical prospection was undertaken at the monument and the results were subsequently published by Johnson and Wailes (61). As summarised by Conroy (13) the earliest activity uncovered on the hilltop was a small Neolithic enclosure (RMP KDO28-038007), a possible Neolithic burial (-038005) and possible Neolithic and Bronze Age habitation evidence (-038003). Later, and far more extensive Iron Age activity comprised three major successive phases of construction, each partly cutting through the previous and all defined by circular trenches, representing large post and palisade structures, and called by the excavator, the 'White Phase', the 'Rose Phase' and the 'Mauve Phase'. Radiocarbon dates and finds, including an iron sword, an iron spear-head, iron needles, fragments of bronze fibulae and glass beads, indicate a late-prehistoric date (c. 390 BC – c. 320 AD ?) for the ritual activity at Dún Ailinne. A segment of the rock-cut ditch of O'Donovan's 'Rath' (RMP KDO28-038006) was found to cut through all the later prehistoric levels on the hilltop. Of the substantial bank and fosse enclosing the hilltop, one radiocarbon date obtained from the humus beneath the rampart gives a terminal date for its construction of probably sometime after 700 BC.

To understand the setting and context of Dún Ailinne it must be seen as part of a wider cultural landscape and to be considered alongside the Curragh and with which must be considered collectively as a prehistoric ritual or sacred landscape (19). The Curragh landscape is unparalleled, with approximately 4,870 acres of open pasture that has been protected against settlement encroachment by both Crown and government policies since the 13th century AD (62). Geographically, it occupied a central position in the Liffey plains, at the junction of the western and northern routeways through the Laigin (Leinster) province, at the point where the Barrow valley merges with the Liffey valley. By the Iron Age / early historic period, the area held a political, economic and religious significance, with Dún Ailinne as the royal seat of the kings of Leinster and the monastic settlement at Old Kilkullen to the southeast and the Hill of Allen and Dunmurry Hill (residence of the mythical figure Fionn Mac Cumhaill) and Kildare monastery to the northwest.

The cluster of prehistoric activity in Ballysaxhills is also significant as it lies to the east of Dún Ailinne and south of the Curragh.

In discussing the extent of the ritual landscape Hicks (19) suggests that if all is considered in the view shed of the monument it could be argued that the three hills on the far side of the Curragh, the Hill of Allen, the Chair and Dunmurry Hill (the Hills of *Adarca Hui Failgi* and *Almu*) could be included as part of the complex, however he suggests that this is unlikely and suggests instead that the landscape is made up of may overlapping and linked sacred sites.

Dun Ailinne by its nature is a low hill set in amongst the series of low hills which define the northeastern boundary of the River Barrow valley. Its importance is rooted in embedded meaning placed upon it in historical, folklore and cultural sources rather than its visual prominence from other areas in the landscape. Therefore while it is visible from points within the barrow valley and the overlooking high ground of the Dublin/ Wicklow Mountains and the Red Hills (Dunmurry, Chair, Grange and Hill of Allen), it is only the knowledgeable viewer who could clearly distinguish the site from the cluster of hills it occupies.

The visual relationship with the proposed wind farm:

The proposed wind farm is located 18km to the north of the Royal site.

Hill of Tara

The heritage significance of the asset: Tara is one of the best known ‘royal’ sites in Ireland, it is also known as the ancient capital of Ireland. The complex comprises at least seventy three recorded monuments, ranging from a Neolithic passage tomb to Iron Age ceremonial earthworks. The remains of 25 monuments are visible on the hill and at least twice as many again have been revealed through geophysical prospection, aerial photography and, most recently, LiDAR survey. The majority of the monuments within the archaeological complex are burial or ritual monuments predominantly prehistoric in date and it has been suggested that the hilltop itself was especially set aside as a ritual area, with contemporary settlement sites located in its hinterland. The site is portrayed in the earliest Irish sagas as the domain of gods and goddesses and is seen as the centre of an ancient sacral kingship and the seat of the high-kings of Ireland. The symbolism of Tara continued into the 18th century with 1798 skirmishes and where Daniel O’Connell had his ‘monster meeting’ in 1843.

The contribution made by setting to significance: The archaeological complex of Tara is located on a low ridge rising to 159m OD and approximately 2km long. The summit is the centre of an integrated complex of archaeological monuments which extends into the surrounding landscape.

As stated in the group nomination OUV for the Royal sites of Ireland (above), royal sites were situated in strategic and elevated locations. The elevation at Tara affords panoramic skyline views over the central plain of Ireland. These views are an important contribution to the significance of the site as they were a key influence in the site’s emergence as a location for both ritual and ceremonial activities. The views gave a notion of the vast extent of land- *as far as the eye could see*- over which the High-Kings of Ireland presided. These expansive skyline views in combination with the monuments present evoke a unique sense of character, spirit and feeling of the place one that is open and sacred.

Meath County Council has placed around the complex a large draft Landscape Conservation Area (LCA) buffer zone in order to protect the environs of the monument. In this plan a large landscape conservation area buffer zone has been placed around the complex (Fig 14.1 and Illus. 14.86). This zone incorporates many multi-period recorded archaeological sites and monuments which are relevant to the understanding of the Hill of Tara and all of which contribute to the setting of the site as a landscape of archaeological significance.

The site is a well-known internationally and is one of Meath’s most important tourist attractions, tourists are lead uphill from the northern side of the site along a trackway up to St Patricks Church on the hill from there they are free to roam about the site.

Views from the Hill of Tara are panoramic. Key views, which add to the significance of the asset, comprise those to sites and monuments and topographical features that are associated with Tara. These include views east northeast towards Skryne Hill (172m OD), a prominent land mark historically associated with Tara upon which Skreen Church and Cross is sited, and the view westwards across the Skane and Boyne valleys where the lands slope down to the River Boyne at Bective.

To the southwest are Ringlestown Rath and Riverstown enclosure, to the south is Rath Maeve, to the north Rathmiles and to the northeast is Rath Lugh. Outside the LCA buffer zone notable features include the wide expanse of Navan town to the north, to the northeast is Platin cement factory –which is visually intrusive, and the Dunmore Wind Farm and substation. The M3 motorway is located on the lower slopes to the north and east.

Views in the direction of Tara, where it is visible comprise the distinctive woodland copse on the upper west slopes of the site surrounding St Patrick's Church.

The visual relationship with the proposed wind farm: The proposed Maighne Wind Farm is located c. 25km to 46km (from the nearest cluster at Ballynakill to the furthest cluster at Cloncumber respectively) to south southwest of the Hill of Tara.

14.3.3 Associated Infrastructure for Maighne Windfarm

14.3.3.1 Introduction

Associated infrastructure outside the windfarm land parcels assessed for the purposes of this study include:

- MV Cable Routes
- HV Cable Routes Options
- Turbine Delivery Routes and Haul Roads

These routes will avail of the existing road network except in one area where the proposed route leave an existing bog access road and cross for approximately 700m along the edge of a large expanse of peatland in Lullymore West townland (Fig. 14.8) and then joins the existing R414. This occurs between the Derrybrennan and Cloncumber cluster.

The assessment is based on a desk study, with reference to known sites recorded in the Record of Monuments and Places (RMP), Record of Protected Structures (RPS) and National Inventory of Architectural Heritage (NIAH) Building Survey. The assessment also includes undesignated sites (i.e. sites of local cultural heritage merit that are not afforded statutory protection) listed in the Kildare Industrial Archaeological Heritage Survey (KDIAHS) (68) and the Meath Industrial Heritage Survey (MIHS) (69).

14.3.3.2 MV Cable Route

All external cable routes are proposed within existing roadways, excavation will be required for the cable trenches (Fig. 14.8). The typical width of a cable trench with a trefoil formation will be 600mm; a flat formation would require a wider trench width. The depth of cover to the ducts carrying the 33kV cables will usually be 950mm cover to the top of the upper duct in public roadways and grassed areas.

Recorded archaeological monuments (RMP sites) located adjacent to the roads through which the MV cables run include a Children's Burial Ground in Cadamstown (RMP KD003-015), a church and graveyard (RMP KD003-014002) further south in the same townland and a medieval church and graveyard and castle site in Dunfierth (RMP KD004-005 and KD004-006). As the recorded graveyards occupies a roadside location in the vicinity of the cable route, there is the potential that associated archaeological sites or features – particularly burials – may extend beneath the existing road in these locations. A crannog and trackway in the townland of Dysart/Knockanally (RMP KD004-014) also lies in proximity of the road and there is a potential that features associated with it may also extend beneath the road surface.

The MV cable route between Derrybrennan and Cloncumber clusters is considered to run through a sensitive landscape of subsurface bogland archaeological potential. Once the proposed MV cables have crossed the Grand Canal the route enters land along an unclassified road associated with the vast expanse of bog associated with Lullymore/Derrybrennan bog. Several recorded gravel trackways traverse the bog and it is considered likely that some of these may run beneath the existing road surface. Trackways that may cross beneath the line of the road include the gravel trackway recorded in Derrybrennan (RMP KD012-003001) and in Barnaran townland (RMP KD012-007). The gravel trackway RMP KD012-007 is c.4.5m wide in Derrybrennan/Lullymore West was identified in the peatland on the west side of the existing R414 road and its orientation suggested that it continued north (Illus. 14.87, Fig 14.8). The section of trackway was excavated and found to run close to and parallel with the existing modern road, at a depth of 0.55m below the surface of the bog and is likely to continue beneath the road.

If this trackway did continue southwards, it would have also crossed the existing R414 road at some point. There is a potential that the recorded togher (RMP KD012-004001) from/to the 'dry island' in Derrybrennan might also continue south to the dry land at Lullymore also crossing the road.

The proposed MV cable will run offline and will traverse the site of a gravel trackway in Lullymore West (RMP KD012-016) before it connects to the R414 (Illus. 14.88, Fig 14.8). This trackway (measuring 63m in length; 0.8m in width and 0.04m in depth) consists of regular sized sandstone flags laid quite close together. There is the potential direct impact on this recorded trackway and on previously unrecorded features that might exist on the edge of the bog.

The cable route crosses the Grand Canal at Kilpatrick, here the route will go off line and will be horizontally directionally drilled beneath the Grand Canal (KDIAHS Ref. 012-002) and thus avoiding the canal and the bridge crossing. The road crossing the canal does not appear on the 19th or early 20th century OS mapping and is likely to be associated with the Bord na Mona works (and Lullymore Briquette Factory, KDIAHS 012-017) in Derrybrennan bog to the south, providing an access point across the canal. Infrastructure associated with Bord na Mona dating from the mid-20th century onwards is a common feature of this landscape and this canal bridge forms part of that later industrial heritage. Similarly Agar Bridge (RPS B17-15) which is a protected structure located to the west of the Cloncumber cluster will be avoided and the cable will be horizontally directionally drilled beneath the structure. .

The recorded monuments and protected structures immediately along the routes through which the MV cables pass are listed in Table 14.38 below. All remaining sites listed are associated either with Bord na Mona works, the Grand Canal or bridges recorded in the Kildare Industrial Archaeological Heritage Survey (KDIAHS) and are considered to be of local heritage interest and comprise sites that were indicated on historic maps but are no longer present (or never got built in the first place for i.e. a proposal for the Grand Canal). Where bridges are present the MV cables will be horizontally directionally drilled beneath them thus avoiding any physical impact on their structure.

Listed below are the sites potentially affected by the trench excavation required for the cable route development, listed from north to south through the development area (Fig 14.8).

Table 14.38: Sites located along or in proximity to the MV Cables

Reference	Status	Townland	ITM (NGR)	Site Type
RMP KD003-015	Recorded monument	Cadamstown	671407/ 739169	Children's burial ground
RMP KD003-014002	Recorded monument	Cadamstown	671209/ 738799	Church and Graveyard
KDIAHS 003-029	Potential local industrial/cultural heritage interest	Clonagh/Mylerstown	671759/ 738004	Road bridge over former 'MGWR Railway line (Edenderry Branch)
KDIAHS 003-044	Potential local industrial/cultural heritage interest	Kilmurry	674844/ 738231	Bridge over Fear English Route
RMP KD004-005001/004 and RPS B04-04	Recorded monument and protected structure	Dunfiirth	677554/ 738371	Dunfiirth Church & Graveyard
RMP KD004-006	Recorded monument	Dunfiirth	677627/ 738385	'Site of' Dunfiirth Castle
RMP KD004-014/001-002	Recorded monument	Dysart, Knockanally	680163/ 737936	Crannog Road - road/trackway
KDIAHS 008-010	Potential local industrial/cultural heritage interest	Drehid	672141/ 734372	Bridge, Drehid Crossroads, associated with stream
KDIAHS 008-020	Potential local industrial/cultural heritage interest	Drummond; Kilkeaskin (junction)	671504 /731252	Dillon's Bridge, associated with Cushaling River
RMP KD012-016	Recorded monument	Lullymore West	670900/ 726428	Road - gravel/stone trackway - peatland
KDIAHS 012-002	Local industrial/cultural heritage interest	Kilpatrick	671428/729310	Grand Canal bridge crossing associated with the Lullymore Briquette factory
RMP KD012-007	Recorded monument	Barnaran	670875/ 724029	Road – gravel/stone trackway - peatland
KDIAHS 012-003	Local industrial/cultural heritage interest	Ballybrack	670826/ 728736	Iron Bridge, associated with Abbeylough River
RMP KD012-003001	Recorded monument	Ballybrack	670805/ 728278	Road - gravel/stone trackway - peatland
RMP KD012-016	Recorded monument	Lullymore West	670900/ 726428	Road - gravel/stone trackway - peatland
RMP KD012-004001	Recorded monument	Derrybrennan, Lullymore West	670085/ 727258	Road - class 1 togher
KDIAHS 012-015	Potential local industrial/cultural heritage interest	Lullymore West	671256/ 726348	Rejected Line of Canal, associated with KDIAHS- 012-002 (Grand Canal)
RMP KD012-010	Recorded monument	Lullymore West	670513/ 725847	Cross-inscribed stone (present location)
RMP KD012-015	Recorded monument	Lullymore East	670690/ 724604	Road - gravel/stone trackway - peatland
RMP KD012-007	Recorded monument	Barnaran	670875/ 724029	Road - gravel/stone trackway - peatland
KDIAHS 012-018	Potential local industrial/cultural heritage interest	Cushaling; Tickney; Derrybrennan; Lullymore W.; Lullymore E.; Drumsru; Allenwood North;	Various	Bog Railway, associated with KDIAHS- 012-01901 (Power Station); 012-01902 (factory).

Reference	Status	Townland	ITM (NGR)	Site Type
		Lullybeg; Lullymore		
RPS B17-15 / NIAH 11901702	Protected Structure	Cappanargid	670259/721702 (NGR 270320/ 221666)	Bridge (Agar Bridge)

14.3.3.3HV Cable Route Options

The precise connection point to the national electricity transmission grid will be determined by EirGrid plc, which is the statutory Transmission System Operator. For the purposes of this planning application, two HV grid connection routes (which will operate at a voltage up to 220kV) have been identified and evaluated. The two HV grid connection cable routes included in this application propose to connect the proposed Maighne Wind Farm substation at Drehid to either one of two existing substations located at Woodlands, Co. Meath or Maynooth, Co. Kildare. However, only one of these routes will be constructed following the identification of the preferred connection point by the Transmission System Operator.

Where possible and practical horizontal directional drilling will be used when crossing other infrastructure including bridges, canals and railways. This will ensure that the bridges that are protected structures or of historical interest will not be impacted. Where directional drilling is not possible construction techniques will be devised to ensure that there will be no physical impact to the structures.

The routes pass through the centre of the existing road surfaces, there will be no impact on roadside property boundaries. Street furniture such as post boxes or water pumps etc. will be avoided; if this is not possible they will be temporarily moved and reinstated to its original location.

HV Cable Route to Woodland

The cable route runs through the area of archaeological potential associated with the Deserted Medieval settlement of Cloncurry (RMP KD004-021002). At the N4-Cloncurry crossroads road-widening and junction improvement scheme archaeological test-trenching (Licence no. 01E0264) identified intact archaeological remains either side of the road junction comprising significant evidence for medieval activity including a stone building (RMP KD004-021015), ditches/ boundary features, large burnt spreads/ structures, pits and layered deposits. It is likely that similar truncated medieval archaeological remains will be identified during the HV cable trench opening in the vicinity of Cloncurry.

While Mulhussey church and graveyard (RMP ME049-011, -012) lie 114m from the road through which the cable runs, the road as it runs passed the site has a distinctive curve in it which may suggest that the site may have had an outer enclosure. There is a potential that features associated with the site or perhaps part of its enclosing element may extend beneath the present road surface.

The remaining sites identified along the HV route are bridges (road, rail, river and canal) or features recorded in the Kildare Industrial Archaeological Survey and are considered to be of local heritage interest. Where bridges are present the HV cables will be horizontally directionally drilled beneath them thus avoiding any physical impact on their structure, if this is not possible construction techniques will be devised to ensure that there will be no physical impact to the structures.

Listed below are the sites potentially affected by the trench excavation required for the HV cable route development, listed from north to south through the development area (Fig. 14.8).

Table 14.39: Sites located along or in proximity to the HV Cable Route to Woodland

Reference	Status	Townland	Location ITM (NGR)	Site Type
KDIAHS 004-028	Potential local industrial/cultural heritage interest	Gorteen	676547/ 739168	Mill Race which ran beneath the road (assoc. with Metcalf Pk. Flour Mill)
RPS B04-24, NIAH 11801011 KDIAHS 004-005	Protected Structure	Gorteen (Carbury BY)	676289/739414 (276354/239389)	Fear English Bridge-Bridge probably later 18th-19th century in date and associated with the access route into Metcalf Park.
RPS B04-25 NIAH 11801015 KDIAHS 004-004	Protected Structure	Johnstown (Carbury BY)	676556/739972 (276622/239944)	Johnstown Br, appears to have led to naming of village. Unnamed bridge shown on Downs Survey map of the Barony of Carbury, 1654-56.
RMP ME048-027	Recorded monument	Johnstown	677262/740485	Fulacht fia (excavated)
RMP KD004-021	Recorded monument	Ballynakill (Cloncurry Ed), Ballyvoneen, Cloncurry (Ikeathy & Oughterany By., Cloncurry Ed), Kilbrook	680423/740992	Cloncurry , settlement deserted - medieval
RMP KD004-021015-	Recorded monument	Cloncurry (Offaly East By., Cloncurry Ed)	680315/741260	Building associated with Cloncurry
KDIAHS 005-002	Local industrial/cultural heritage interest	Kilcock	687723/740308	MGWR (Galway-Dublin) Railway
NIAH 11802019 KDIAHS 005-007	industrial/cultural heritage interest	Boycetown	68776/740297	Allen Bridge, Single-arch rubble stone road bridge over canal, 1796
KDIAHS 005-002 MIHS049-017	industrial/cultural heritage interest	Boycetown	688009/740636	Balfeaghan Bridge at which the road crosses the Ryewater River at the county border with Meath.
MIHS 049-012	Potential local industrial/cultural heritage interest	Calgath	689185/742203	Bride's Well Bridge / road crosses 'Brides' Stream'
MIHS ME049-01001	Potential local industrial/cultural heritage interest	Kemmins Mill	689599/743162	Mill Race c.1.34m along short stretch of watercourse running along southern side of main road.
RMP ME049-011	Recorded monument	Mulhussey	691193/743559	Church and graveyard
RMP ME049-012	Recorded monument	Mulhussey	691391/743614	Castle – tower house

HV Cable Route to Maynooth

The HV cable route runs through the Drehid land parcel which comprises afforested bog. Field drains indicate that the bog is quite deep in this location and there is a potential, given the large number of stray finds identified in the vicinity of this bog that archaeological remains (such as trackways or gravel paths) may survive intact within the bog below the reach of the tree root structure and existing access tracks.

Recorded archaeological monuments (RMP sites) located immediately adjacent to the roads through which the HV cables run include a church and graveyard and castle site in Dunfiirth (RMP KD004-005 and KD004-006), a crannóg and trackway in the townland of Dysart/Knockanally (RMP KD004-014) and church and graveyard in Barreen (RMP KD010-012). As these sites lie in proximity to the road there is the potential that associated archaeological features may extend beneath the existing road in these locations.

At the easterly end of the HV cable route is the roadside monastic foundation of Taghadoe, a National Monument. It comprises an ecclesiastical enclosure, a church, a chapel and a round tower (KD010-014001/005). The existing road (L5037) forms part of what would have been the enclosure of the ecclesiastical site and there is a significant potential that features associated with the ecclesiastical site may extend beneath the road surface.

The recorded monuments that may extend beneath the road through which the cables pass are listed in Table 14.40 below. The remaining sites listed are bridges recorded in the KDIAHS (road, rail, river and canal) or features and are considered to be of local heritage interest. Where bridges are present the HV cables will be horizontally directionally drilled beneath them thus avoiding any physical impact on their structure, if this is not possible construction techniques will be devised to ensure that there will be no physical impact to the structures.

Table 14.40: Sites located along or in proximity to the HV Cable route to Maynooth

Reference	Status	Townland	ITM (NGR)	Site Type
RMP KD004-005001/004 and RPS B04-04	Recorded monument and protected structure	Dunfiirth	677554/ 738371	Dunfiirth Church & Graveyard
RMP KD004-006	Recorded monument	Dunfiirth	677627/ 738385	'Site of' Dunfiirth Castle
RMP KD004-014/001-002	Recorded monument	Dysart, Knockanally	680163/ 737936	Crannog Road - road/trackway
KDIAHS 009-003	Potential local industrial/cultural heritage interest	Derrycrib; Newtownmoneenluggagh (junction)	682077/ 734244	Clogheraun Bridge
KDIAHS 010-003	Potential local industrial/cultural heritage interest	Kilnamoragh North	684981/ 733162	Telfer's Bridge over Baltracey River
KDIAHS 010-023a	Potential local industrial/cultural heritage interest	Baltracey; Barreen	687829/ 733749	First crossing of the Baltracey River
KDIAHS 010-023b	Potential local industrial/cultural heritage interest	Baltracey; Barreen	688535/ 734053	Crossing of the mill race associate with the Baltracey corn mill
RMP KD010-012001/002	Recorded monument	Barreen	688973/ 734262	Church and graveyard
KDIAHS 010-006	Potential local industrial/cultural heritage interest	Bareen; Graiguelin; Kealstown (junction)	689328/ 734204	Lyreen Bridge (1)
RMP KD010-014001/005	National Monument	Taghadoe	692323/ 734561	Taghadoe Ecclesiastical site and round tower, the road is part of the enclosure

14.3.3.1 Turbine Delivery and Haul Routes

There are several points, or node points, along the proposed turbine delivery routes that need to be temporarily upgraded or altered to enable the transportation of the turbine components. The majority of these occur on regional and local roads, roundabouts and junctions. Most alterations involve the short term removal of street furniture, or removing the grass from a verge and replacing with stone however others could require more extensive work such as alterations to bridges etc. There is no recorded archaeological, architectural sites (RMP, RPS, NIAH) located at any of the proposed node upgrades.

A node upgrade is proposed at Kilpatrick at a road bridge (possibly 20th century) crossing along a section of the 18th century Grand Canal. The canal is listed in the KDIAHS (Ref. KDIAHS-012-002), it is not recorded in the NIAH or RPS nor does not appear on the 19th or early 20th century OS mapping. The crossing is likely to be associated with the Bord na Mona works (and Lullymore Briquette Factory, KDIAHS-012-017) located in Derrybrennan bog to the south, providing an access point across the canal. Infrastructure associated with Bord na Mona dating from the mid-20th century onwards is a common feature of this landscape and this canal bridge forms part of that later industrial heritage.

Table 14.41: Sites potentially impacted by the turbine delivery upgrade nodes

Reference	Status	Townland	ITM (NGR)	Site Type
KDIAHS 012-002 (canal- the bridge is not listed)	Potential local industrial/cultural heritage interest	Kilpatrick /Ballybrack	671428/729310	Grand Canal-20 th century bridge associated with the Lullymore Briquette factory

The haul routes and turbine delivery routes will use the existing road network. There are several protected sites and structures (RPS / NIAH sites) that are aligning the road (Fig 14.8), these structures, and their property boundaries will not be impacted. There are three protected bridges over which the construction/delivery traffic will pass these include Johnstown Bridge (RPS B04-25), Fear English Bridge (RPS B04-24), and Agar Bridge (RPS B17-15). The following protected bridge structures are located along the haul/turbine delivery routes.

Table 14.42: Protected bridge structures (RPS Sites) crossed by the Haul/TDR

Reference	Status	Townland	ITM (NGR)	Site Type
RPS B04-25 NIAH 11801015 KDIAHS 004-004	Protected Structure	Johnstown (Carbury BY)	676556/739972 (276622 / 239944)	Johnstown Br, appears to have led to naming of village. Unnamed on Downs Survey map of 1654-56.
RPS B04-24, NIAH 11801011 KDIAHS 004-005	Protected Structure	Gorteen (Carbury BY)	676289/ 739414 (276354 / 239389)	Fear English Bridge- Bridge probably later 18th-19th century in date
RPS B17-15 / NIAH 11901702	Protected Structure	Cappanargid	670259/721702 (NGR 270320/ 221666)	Bridge (Agar Bridge), a Canal bridge.

All remaining bridge structures (excluding the node upgrade at Kilpatrick) are recorded in the Kildare Industrial Archaeological Survey and are considered to be of local heritage interest and comprise a mixture of road, rail and canal bridges.

Table 14.43: KDI AHS structures on the Haul/ Turbine delivery routes

Reference	Status	Townland	ITM (NGR)	Site Type
KDIAHS 003-044	Potential local industrial/cultural heritage interest	Kilmurry	674844/738231	Bridge over Fear English River
KDIAHS 003-042	Potential local industrial/cultural heritage interest	Kilshanchoe; Ballynamullagh	673717/737243	'new bridge' over the Sweep River
KDIAHS 008-010	Potential local industrial/cultural heritage interest	Drehid	672141/734372	Bridge, Drehid Crossroads, associated with stream
KDIAHS-009-017	Potential local industrial/cultural heritage interest	Timahoe West	677083/732199	Timahoe Bridge
KDIAHS 009-002	Potential local industrial/cultural heritage interest	Derrycrib	681565/734280	Blackwater Bridge
KDIAHS 008-029	Potential local industrial/cultural heritage interest	Carbury	669355/733823	Un-named bridge over River Boyne
KDIAHS-008-005	Potential local industrial/cultural heritage interest	Knockcor	669036/735568	Road bridge over former 'MGWR Railway line (Edenderry Branch)
KDIAHS-008-017	Potential local industrial/cultural heritage interest	Dreenan	670900/732370	Grace's Bridge
KDIAHS 008-020	Potential local industrial/cultural heritage interest	Drummond; Kilkeaskin (junction)	671504/731252	Dillon's Bridge, associated with Cushaling River
KDIAHS 012-002	Local industrial/cultural heritage interest	Kilpatrick	671428/729310	Grand Canal bridge
KDIAHS 012-003	Local industrial/cultural heritage interest	Ballybrack	670826/728736	Iron Bridge, associated with Abbeylough River

As discussed above the proposed MV cable will run offline and will traverse the site of a gravel trackway in Lullymore West (RMP KD012-016) before it connects to the R414 (Illus. 14.88, Fig 14.8). A haul road will also be constructed along this same line. However it is anticipated that all archaeological issues will be resolved in this area before the MV cable or the haul road is constructed to the satisfaction of the DAHG.

14.4 Potential Impacts

14.4.1 Potential Impacts during Construction

14.4.1.1 Potential Direct Impacts

Direct impact on UNESCO World Heritage Sites and Candidate Sites

The proposed development will have no direct impacts on any UNESCO World Heritage sites or candidate sites on the Tentative List of properties for potential nomination and inscription on the World Heritage List.

Direct impact on National Monuments

The proposed development will have no direct impacts on any National Monuments.

Direct impact on Protected Structures

The proposed development will have no direct physical impacts on the immediate curtilage or attendant grounds of protected structures, NIAH sites or features, NIAH garden survey sites or on Architectural Conservation Areas.

Impacts on built heritage features associated with the external infrastructural works is discussed separately below.

Direct impact on Cultural Heritage

The Booleykeagh/Moyvally (CH5) and Ballyonan/Ballynakill (CH6) townland boundaries in the Ballynakill cluster will be crossed by the proposed access tracks/cable routes. The remaining townland boundaries are marked by deeply ditched watercourses, have been previously breeched, subsumed into forestry or do not have a physical boundary (i.e. those located within the bogs).

The internal access track/cable route through the Cloncumber cluster runs alongside a former nineteenth century mill race associated with Sally Mill (in Rathangan) and will have a direct impact on the feature in three locations (CH8–CH10, Fig. 14.7) where it will be traversed. The mill race channel is now used for field drainage, it comprises a water-filled ditch that is in places either overgrown or has been cleared out by machine. The partial impact of the access track/cable route on this relict feature of local historical interest is considered to be slight.

Direct impact on Recorded Archaeological Monuments (RMP Sites)

The proposed Ballynakill, Windmill, Drehid-Hortland and Derrybrennan clusters will not have a direct physical impact on any recorded archaeological monuments.

In the Cloncumber cluster Turbine T33 will have a potentially significant direct impact on the environs of ringfort site (RMP KD017-004) in Cloncumber townland. The ringfort is a large example and occupies a prominent position in the field. Turbine T33 lies c. 60m to the north-northeast and will have a direct impact on its setting and will have a physical dominance over it (Fig. 14.7). A proposed compound (50 x 50m) is also located on the lower slope of the field c. 114m to the southeast of the ringfort. There is in addition a significant potential that features associated with the ringfort may extend into the area of the turbine, the access track/cable routes and the compound.

Direct impact of the associated infrastructural works

- Proposed compounds

As discussed above the earthmoving works for the proposed compound in Cloncumber will have the potential to reveal subsurface features that might be associated with ringfort site (KD017-004).

The remaining compounds will have no direct impact on any recorded monument or structure. As the development of a compound area will require levelling and topsoil stripping there is a potential to reveal below ground archaeological remains at all the proposed locations.

- MV Cable Route

Recorded Archaeological Monuments

The MV cable, and also the access road, between Derrybrennan and Cloncumber clusters will run offline at Lullymore West, before joining the R414. It runs along the edge of Lullymore Bog through the recorded site of a road / gravel trackway in Lullymore West (RMP KD012-016) and will have a direct impact on it.

It is also considered likely that the trackways which are recorded to traverse the Lullymore/Derrybrennan expanse of bogland (RMP KD012-003, KD012-004, and KD012-007) will cross beneath the R414 through which the MV cable is proposed run. There is a potential that the proposed cabling works may reveal additional sections of trackway and / or associated features in the vicinity of these sites.

The remaining MV cable routes will run within existing roadways, which reduces the potential of discovering archaeological features or sites. However there are recorded archaeological monuments in immediate proximity to the roads through which the MV cables run and there is a potential that associated archaeological sites or features (albeit truncated) may extend beneath the existing road in these locations. Recorded archaeological monuments include a Children's Burial Ground (RMP KD003-015) and a church and graveyard (RMP KD003-014002) in Cadamstown, a medieval church, graveyard and castle site in Dunferth (RMP KD004-005 and KD004-006) and a crannog and trackway in the townland of Dysart/Knockanally (RMP KD004-014).

The cable routes will be directionally drilled beneath any bridge structures, watercourses, rivers and canals where possible.

- HV Cable Routes

HV Cable Route to Woodland

The HV cable route will run within existing roads and as such will have a reduced archaeological potential to reveal unrecorded archaeological remains, however there are sections along the routes that are considered to have an increased potential given the proximity of the road to recorded archaeological monuments. There is a potential that archaeological features may be revealed during trenching works in the vicinity of the settlement of Cloncurry (RMP KD004-021002) and in the vicinity of Mulhussey Church, graveyard and castle site (RMP ME049-011, ME049-012).

HV Cable Route to Maynooth

There is a potential impact on the environs of Taghadoe ecclesiastical site and round tower (RMP KD010-014001/005), a National Monument. The existing road (L5037) forms part of what would have been the enclosure of the ecclesiastical site and there is a significant potential that features associated with the ecclesiastical site may extend beneath the road surface.

There is a potential that archaeological features may be revealed during trenching works within the existing road surface in the vicinity of the church and graveyard and castle site in Dunfierrth (RMP KD004-005 and KD004-006), a crannóg and trackway in the townland of Dysart/Knockanally (RMP KD004-014) and church and graveyard in Barreen (RMP KD010-012).

The HV cable routes, (to Maynooth/ Woodland) will be either directionally drilled beneath the recorded bridge structures or will avoid the structure thus avoiding any physical impact on their structure.

- Turbine Delivery Node Upgrades and Haul Routes

The haul and turbine delivery routes cross Johnstown Bridge (RPS B04-25), Fear English Bridge (RPS B04-24) and Agar Bridge (RPS B17-15), all protected structures. There is a potential that the structural stability of these protected bridge structures may be impacted due to the additional weight loads associated with the construction traffic for the proposed development. In addition there are also several undesignated bridges of local industrial heritage interest that may be similarly impacted (Table 14.43).

The delivery routes will cross a Grand Canal road-bridge at Kilpatrick, an undesignated 20th century bridge associated with the Lullymore Briquette factory.

General Areas of archaeological potential

Potential subsurface archaeological sites (cropmarks)

The field inspection identified two unrecorded sites of archaeological potential within the cluster lands.

- CH2, Ballynakill

In the Ballynakill cluster, c.55m southeast of Turbine T6 there is a very faint sub-circular cropmark indicating a possible enclosure (CH2) which may be archaeological in nature (Fig. 14.4). While this site can be avoided by development activity, features that may be associated with it may extend below ground into the area of the turbine and access tracks and would be subject to a potential direct impact; however given its distance from the feature this potential is deemed to be low.

- CH7, Drehid-Hortland

In the same field as Turbine T47 in the Drehid-Hortland cluster, a cropmark suggesting the presence of a rectangular enclosure (CH7) was identified on aerial photography (Fig. 14.4, Illus. 14.43). Given its dimensions and planform it is thought that it may represent the remains of a moated site. The turbine is located c.162m west of this feature and will not directly impact it, however there is a potential that subsurface archaeological features that might be associated with this potential site (such as associated field systems) may extend into the area of the turbine and the access road and will be directly impacted. However, given its the distance from the feature and the limited excavation required for the development it is thought that the construction activity will be well outside the main core of archaeological activity associated with moated sites and any features that might be identified are likely to be isolated features of a low archaeological significance.

General Areas of Archaeological potential

As with any developments proposed within a greenfield environment there is a potential that previously unknown below ground remains of an archaeological interest will be revealed as a result of earthmoving activity associated the development. However given the known archaeological resource and the level of alteration in this landscape through milling, afforestation, and reclamation it is considered that this potential is generally low, any features that might be identified are likely to be heavily disturbed or truncated. The following is a list of areas of archaeological potential:

- Cutover Bog

The Windmill Cluster (T24, T25 and T26) is within an expanse of cutover bog. The bog is considered to be of significant archaeological potential because of the capabilities of such environments to preserve organic archaeological remains; this potential has been demonstrated by the discovery of bog butter in the bog. The types of archaeological features that may be encountered include; trackways, fulacht fiadh, stray finds, and buried organic material. There is a significant potential that the development within this bog (turbines, tracks and cables) will reveal previously undetected archaeological remains and stray artefacts which will be directly impacted.

- Dry Islands within the Bog

The Derrybrennan cluster is located on a 'dry island' within Lullymore Bog. Many substantial multi-period toghers once provided access to this island suggesting that there has been activity here since at least the prehistoric period, for this reason this area is considered to be of archaeological potential and it is likely that archaeological features could be identified during earthmoving works associated with the proposed development (i.e. for Turbines T27, T28 and their access tracks and cables).

- Gravel Ridges

There is an isolated esker/ sand and gravel ridge (CH1) in the vicinity of Turbine T2 (Ballynakill cluster). Earthmoving works along gravel ridges have a potential to reveal archaeological features cut into them (such as burials etc., particularly dating to the prehistoric period) as is demonstrated by the discovery of many archaeological sites and features in the quarry sites in the surrounding landscape.

- River Crossings

Rivers and streams act as foci of settlement related activity and have an inherent archaeological potential. The access /cable routes cross several ditched watercourses that have limited archaeological potential; or cross rivers/streams where there is an existing crossing. No features of archaeological potential were noted along the banks of the smaller ditched tributaries and streams that have been straightened and worked on as part of bog drainage and land improvement works and form boundaries to the modern field systems. Where the internal access tracks and cables traverse the Fear English River in the Drehid-Hortland cluster (i.e. track between Turbines T16 and T17, T15 and T18), the river Blackwater (track to Turbine T40) and the Slate River (track to Turbine T29), are considered to have a low archaeological potential as the rivers in these locations have been already been realigned or deeply ditched and cleared.

- Dryland/ Wetland interface potential

The archaeological potential of marginal lands or wetland is based on the attractiveness of bog margins for human settlement activity from the time bog first began to grow and expand in the landscape in the prehistoric period, and possible settlement on the drier grasslands on the margins.

Turbines T19-T23 in the Drehid-Hortland cluster is located in dry land on the edges of the Timahoe bog. As demonstrated by the number of early medieval sites sited on the edges of this bog it is considered possible that earthmoving works associated with the construction of the proposed turbines, cable and access tracks may uncover previously unknown archaeological sites, soils or finds in these greenfield areas.

- Former bogland

In Drehid-Hortland, Turbines T11–T15 and T40–T45 and their access tracks and cable routes are located in afforested lands that were former bogland. Field drains indicate that the bog is quite deep in this location and there is a potential, given the large number of stray finds identified in the vicinity of this bog, that truncated archaeological remains (such as trackways or gravel paths) may survive intact within the bog below the reach of the tree root structure and existing access tracks. Such remains might be revealed during the site preparation and construction stage of the wind farm. This potential is also increased by the fact that the cluster lies between the dry land and former dry islands in the bog as indicated in historic Ordnance Survey maps. The Drehid substation and compound is also located in forested land on former bog. Given the surface area of the development there is a potential that archaeological features may be identified during site clearance and ground moving works in this area.

Turbines T29–T32 and T38 on the southeastern edges of Lullymore Bog in the Cloncumber cluster are also in afforested former bogland. The archaeological potential in the area is augmented by the fact that both the Timahoe and Lullymore bogs have produced numerous stray finds and extensive trackways through the bog during the Bord na Mona peat extraction works. Best practice mitigation strategies for the excavation and recording of features identified in bogs have been developed by Bord na Mona and the DAHG.

Turbines T38 and T37 in Cloncumber and T41 Drehid-Hortland are in reclaimed bogland. There is a similar archaeological potential that organic features may be revealed during earthmoving works for the proposed wind farm development.

- **General greenfield archaeological potential**

While Turbines T1–T10 in the Ballynakill cluster are in greenfields, the M4 excavations to the south of this area identified isolated spreads of archaeological material of limited archaeological significance. Nonetheless, albeit thought to be limited there still remains a potential.

The remaining turbines, access tracks and cable routes (i.e. Turbines T34–T36 and T39 in Cloncumber) have also a general greenfield archaeological potential.

- **Forest plantation on former dryland**

Historic mapping shows that Drehid-Hortland Turbines T16 and T17 are in forest plantation's that are located on former dryland at the edge of the bog. The archaeological potential due to the disturbance of the forestry in this area is considered to be low.

14.4.1.2 Potential Indirect Impacts

The access track to T7 in the Ballynakill cluster runs immediately adjacent to a derelict vernacular cottage (CH3, Fig. 14.4) of local heritage interest. Given its proximity to the track there is a potential that site traffic may cause accidental damage to the structure.

Given its close proximity to Turbine T33, its cable, access tracks and compound there is a potential that the ringfort site (RMP KD017-004) in Cloncumber may be vulnerable to unintentional construction damage. Similarly the potential subsurface sites CH2 and CH7, identified in aerial survey, may also be subject to accidental damage if these sites are not made known to the construction team.

The monument, structure and features will require a protection strategy during construction works.

14.4.2 Potential Impacts during Operation

14.4.2.1 Potential Direct Impacts

There will be a moderate direct impact on the immediate setting of the ringfort site (RMP KD017-004). This impact will endure for the operational lifetime of the windfarm development.

It is anticipated that all remaining direct archaeological heritage issues will be resolved to the satisfaction of the DAHG at the pre-construction stage of the development and therefore there will be no potential direct impacts at the operation stage of the development.

14.4.2.2 Potential Indirect Impacts

By contrast to the direct impacts, indirect impacts on the setting of heritage assets caused by visual changes are usually non-permanent, persisting for the lifetime of the wind farm and ceasing after decommissioning. Potential indirect impacts include an impact upon the setting of a monument or structure an impact that may detract from how the monument is appreciated, understood and viewed within a given landscape.

The visual impacts associated with the proposed development are examined in detail in the Landscape and Visual Chapter 15 and should be read in conjunction with this chapter.

Indirect Impact on the Setting of UNESCO World Heritage Sites and Candidate Sites

Brú na Bóinne World Heritage site lies outside the Zone of Theoretical Visibility of the proposed Maighne Wind Farm. The windfarm will not be visible from the site and there will be no indirect impact on the World Heritage site.

Indirect Impact on the Setting of Candidate UNESCO World Heritage Sites on the Tentative World Heritage List*Dún Ailinne and its associated prehistoric landscape*

Photomontage no. 11AH1 was captured from the summit of Dún Ailinne (Vol. 4). Dún Ailinne is located c.18km to the southeast of the nearest cluster within the Maighne Wind Farm. Reminiscent of other royal sites of Ireland the site occupies an elevated and strategic position having extensive 360° views of the surrounding landscape. The key archaeological and historic landscape element in this view is the Curragh plain, an integral part of the Dún Ailinne's ritual and social landscape. The Curragh lies beyond the large Ballysax Hill Quarry. In this northern view the land rises towards the Long Hill ridge (oriented east-west) where the southern flank of the ritual complex can be seen; there is a view towards the linear 'Black Pigs Dike' running north south over the crest of the hill, the other sites within the complex cannot be clearly deciphered from here. Beyond the Curragh from west to east are the Red Hills, Dunmurry Hill (the site of a hilltop enclosure), the 'Chair of Kildare', Grange Hill and the Hill of Allen, these hills have archaeological and folkloric associations with Dún Ailinne. The Maighne Wind Farm lies beyond the hills in a separate and distinct low-lying bogland landscape, the low topographical features within proximity to the clusters such as Carbury Hill etc. are hidden behind the Hill of Allen. The aforementioned quarry, the Curragh Camp buildings, an electricity power line, and large farm complexes are also within this same view.

The wind farm lies beyond the key archaeological sites and landscape features that contribute to the significance of the Royal Site and to its present understanding as a sacred royal landscape. There will be an indirect visual impact on the distant views to the north of Dún Ailinne. The magnitude of the visual impact is considered by the visual and landscape consultants to be low and the significance of the impact is described as slight (Chapter 15).

Hill of Tara

Maighne Wind Farm is located c.25km south-southwest of the Hill of Tara and approximately 23km from the outer buffer zone for the Tara Skryne Landscape Conservation Area which surrounds the site. The hill is in an elevated and strategic position having extensive 360° views of the surrounding landscape. Photomontage no. MHDR1 (Vol. 4) was taken from the summit of the Hill. In the direction of the wind farm Ringlestown Rath, one of the key site associated with the hill, can be distinguished as a dense cluster of trees on a gentle rise (c. 2.5km to the southwest) located between the village of Kilmessan and a large quarry). Other possible associated sites such as Rath Maeve and Riverstown (further west) blend into the gradually unfolding landscape of dense vegetation, hedgerows and field systems.

The proposed wind farm lies outside the Meath County Council landscape conservation area buffer zone defined around the site (Fig 14.1, Illus. 14.86) and also well outside its wider landscape setting. The wind farm will not disrupt the intervisibility between sites surrounding the hill nor will it impact on the integrity or the authenticity of this well visited and internationally significant site. There will be an indirect visual impact on the distant views to the southwest of the Hill of Tara. The wind farm, as described in Chapter 15 will be '*faintly visible even in clear viewing conditions*' and as a consequence the magnitude of the visual impact of the wind farm on the Hill of Tara is considered to be low-negligible and the significance of this impact is as a result considered to be slight.

Indirect Setting of National Monuments within 5km from the proposed wind farm and accessible hilltop locations within the ZTV*Carbury Hilltop complex (mortuary chapel vested care of Kildare Co. Co.)*

Photomontage no. 10AH31 (Vol. 4) is a representation of how the turbines might appear from the accessible areas on Carbury Hill. The image is taken from the shoulder of the hill at the southeastern side of the ruinous fortified house and takes in the mortuary chapel (which is vested in the care of Kildare County Council) and the graveyard, Carbury village and views towards Newberry Hall and demesne to the south.

The views towards the north-northwest and to the northeast contain the Windmill and the Ballynakill clusters. The turbines in Windmill (c.2.1km) lie in a flat low-lying bog beyond fields of pasture and forestry. On the uphill approach to the castle, the turbines will be viewed to the east of the hill but will not have visual dominance over it, though they may be distracting. In contrast to the prominent position of the castle, the mortuary chapel (National Monument) is located on a level plateau downslope to the south of the hill and in the shadow of the castle, contained within a low walled enclosure; the Windmill cluster will have no impact on the setting of this site.

The Ballynakill cluster is located c.7km to the north of the hill. The key historic views in this direction are towards the castle sites in Mylerstown to the northeast and Ardkill to the east, these views remain uninterrupted (their original visual relationship are not legible as the castles are now low-lying ruins). Similarly there are no turbines between the other low hills of Carrick and Edenderry to the west and northwest which also contain castle sites.

The Drehid-Hortland cluster lies c. 4km to the east-northeast and east-southeast in the distant and low lying landscape. The eighteenth century Newberry Hall and demesne (RPS B08-10), which is historically associated with Carbury Hill is located in low-lying land to the southeast (south of the R402). From the hill the Drehid-Hortland cluster is present to the east of the view of the house and demesne; the cluster however lies separate and distinct from the house and its associated demesne lands. From this vantage point there is an adequate separation between this cluster and the demesne to ensure that the turbines do not dominate over the scale property or on its surrounding expanse of parkland or disrupt an understanding of the relationship between the hill and the house. Turbines were dropped from the proposed development in the area around Timahoe where they were found to distract from the view of Newberry Hall from Carbury Hill and the castle.

The Cloncumber and Derrybrennan clusters lie to the south-southeast and to the south of Carbury Hill at a distance of over 7km. The Chair of Kildare Hills forms a backdrop to this view. Carbury village is nestled into the side at the base of the hill in this direction and is hidden from view. The church tower (RPS B08-15) at the top of the village and the tall trees around it form a principal feature in this view and the turbines do not compete with the scale of these.

The wider distant views from Carbury into the low-lying landscape to north, east and south will be visually altered. The clusters will not however interrupt the key associated views towards Newberry Hall, Knockcor or to Mylerstown and the impact on the setting of the site from a cultural heritage perspective is considered to be moderate as the key elements of the site which contribute to its understanding will still be legible. It is considered that overall there will be a moderate impact on the setting of this site. As outlined in Chapter 15 the significance of the visual impact is considered to be moderate from this location. Collectively the Windmill, Ballynakill and Drehid-Hortland clusters will have an indirect visual impact of varying degrees on the complex on Carbury Hill.

Photomontage 10MR31 (Vol. 4) was taken from the recently realigned R402 at the northern boundary of Newberry Hall. It shows the important intervisibility that exists between the demesne and Carbury Hill. From this point the blade tips from the Windmill cluster can be seen rising above and between houses and vegetation to the north. It is concluded that the turbines from the Windmill cluster are *'at a subordinate scale so that there will only be a minor intrusion on the view of the Castle from here'*. In this view the principal building in Newberry Hall will be substantially sheltered from the turbines at Drehid-Hortland; however there may be a pair of turbine blades seen above the treeline just to the right of the house. This may cause some detracting from the view of this architectural heritage feature; however as discussed in Chapter 15 this is a fleeting, oblique glimpse of the substantially screened structure. The significance of the visual impact captured in this photomontage is considered to be moderate-slight at this location (Chapter 15).

Other photomontages that include a view to Carbury is KEDR03 (Vol. 4), a local view from Knockcur taken southeast of the Windmill cluster with a view towards the northeastern flank of the hill. The landscape and visual consultants conclude that the turbines will not intrude on the view of Carbury Castle from the local road and that the visual impact is considered to be moderate at this location (Chapter 15).

Lullymore Monastic Site (Preservation order (PO11/1972))

Photomontage no.10AH34 (Vol. 4) is taken from within the graveyard of the monastic site. To the north-northwest the two turbines associated with the Derrybrennan cluster (c. 2.3km to the south) is screened by the rising topography and the enclosing tree-lined outer bank and ditch boundary of the monastic enclosure. The Drehid-Hortland cluster (c. 8km to the southwest) will also be substantially screened by the topography and by the sites enclosure; with the exception of a breach in the enclosure to the north-northeast where approximately four turbines can be seen in the distance at a lower scale than the hedgerow. To the east – southeast of the Cloncumber cluster (c. 2.7km to the north) approximately 12 of the turbines can be seen above and between the hedgerows with the Chair of Kildare Hills as a backdrop. The southwestern turbines in the Cloncumber cluster however will have an indirect visual impact on the northern views out of the site and will also somewhat intrude on the sense of isolation, tranquillity, and reflection experienced at the site.

However the important sense of enclosure that the site has will not be impacted and overall it is considered that the presence of the wind farm will not impact on the elements of the setting that contribute to its significance. Overall the impact on the setting of the site is considered to be of a slight scale. Due to the screening provided by the rising topography towards the east and the tree lined enclosing element of the site the Derrybrennan and the Drehid-Hortland clusters will not have a visual influence on the site. The significance of the visual impact at this location is described as being moderate (Chapter 15).

Additional proposed turbines were dropped from the proposed development around Lullymore Monastic site where the turbine was found to be dominant.

The presence of these turbines will also change the environment in which the Bog of Allen Nature Centre and Lullymore Heritage Park operate within. These cultural and natural centres provide valuable information in relation to the history, biodiversity, natural habitat and development of the Bog of Allen. While the wider landscape in which both these centres lie will change their function as centres of learning encouraging exploration and greater understanding within this landscape will not be impacted. The presence of modern wind energy production in the bog will represent a continuation of the harnessing of natural resources in this landscape.

Grange Castle (Nat. Mon. No. 629; KD002-007 RPS B02-03)

There will be distant views in the west of the Windmill cluster (c.5km to the west); at this distance the turbines will not be dominant or overbearing on the setting of the national monument and will not impact on the significance or on the integrity of this site.

Carrick Castle (KD002-009; RPS B02-01)

There will be distant views of the turbines in the surrounding landscape (Windmill cluster is c. 3.7km west), resulting in an indirect visual impact; however the key views and relationships of the site to the adjacent associated features (i.e. ecclesiastical enclosure, Carrick hill, the adjacent road etc.) which are integral to the setting of the site will not be impacted.

The wider landscape: Accessible Sites on prominent accessible hilltop locations within the ZTV

Croghan Hill (Hilltop complex, recorded monument)

Photomontage 10AH03 is taken from the eastern side of the hill close to the enclosed graveyard. The full extent of the Maighne Wind Farm will be visible in the distance towards the east; it lies nestled in the low-lying bog basin beyond the level greenfield systems. The wind farm at a distance of c.20km lies well beyond the setting of this site and a visual change to the distant landscape will have no impact on the significance of this hilltop site. There will be an indirect visual impact on this site resulting in a change to the views towards the east; at c. 20km from the site the wind farm will be faintly visible at a very small scale. The significance of the visual impact is considered to be slight (Chapter 15). The Mount Lucas wind farm lies closer to this site to the north.

Trim Castle (Nat. monument Ref.: 514, RMP Ref: ME036-048004)

Photomontage 07KV05 (Vol. 4) is captured from the top of the castle. The proposed Maighne Wind Farm will be visible in the low lying distant landscape to the south and the southwest (c.16km north northeast of the Ballynakill cluster). It lies in the distance well beyond the altered modern urban environment in the immediate vicinity of the castle and into the fields and landscape beyond. The turbines will lie well beyond the setting of the site and will not affect the visitor's ability to appreciate the relationship that the site has within the medieval town and associated monuments within it, the river Boyne or its relationship with the landscape beyond it. As discussed in the Landscape and Visual chapter the full blade sets of the nearest turbine Ballynakill cluster will be visible the remaining clusters will only be faintly visible at this distance, the significance of the impact is considered to be slight.

Tlaghta/Hill of Ward (National Monument Ref.: 150, RMP Ref: ME030-001)

Photomontage MHDR40 (Vol. 4) captured from the summit of the low hill show that approximately eight turbines (c. 20km to the southeast) will be faintly visible at a very small scale from this site, the remaining turbines will be screened. The wind farm lies in a separate and distinct low-lying landscape beyond the undulating landscape that the site lies in and will not detract from the setting of the site nor on its significance. The significance of the visual impact on this view is considered to be imperceptible (Chapter 15).

Kildare Round Tower (RMP KD022-0290)

Photomontage 10AH32 is captured from the top of the round tower, the closest turbine is over c.10km to the south, turbines will be viewed between Dunmurry Hill and the Hill of Allen, with a single turbine visible between Dunmurry Hill and Red Hill. The wind farm lies well beyond the main historic core of the town in the distant low-lying landscape and is as such well outside the setting of this site, the towers relationship with the town and its interaction with the surrounding landscape, all of which contribute to the understanding and the significance of the site, will not be impacted. The visual impact on this view as described in Chapter 15, is slight.

Rock of Dunamase, Co Laois (National Monument Ref 615, LA013-052)

Photomontage 14AH01 establishes that from this hilltop location the wind farm will be viewed in the distant low-lying landscape to the left of and behind a low range of hills Raheen/Killenny and Carrigeen c.30km to the north. The wind farm lies well outside the setting of the hilltop site and will not impact nor detract from the sites significance. The visual impact on this view is considered to be slight–imperceptible as described in Chapter 15. To the northwest the Mount Lucas and proposed Yellowriver wind farms can be seen in the distance.

Indirect Impacts on Recorded Archaeological Monuments (RMP Sites)

There will be an indirect (visual) impact on a number of recorded archaeological monuments sites that lie within a 2km radius of the proposed wind farm clusters.

- Ballynakill cluster:

There are three archaeological monuments within 1km of this cluster. The ‘site of’ a castle (RMP KD001-005, 804m SE of T10, 882m SE of T8), the ‘site of’ an enclosure (RMP KD001-010, 700m NE of T7, 647m N of T8) and a moated site (RMP KD001-004, 701m to the east of T8). The castle and enclosure site have no upstanding remains. As described above the settings of these sites are predominantly associated with their immediate environs and a visual change to the landscape in the direction of the cluster will have no impact on their significance.

The moated site (RMP KD001-004) in Moyvalley lies to the east of the canal and railway line which are heavily screened. The site is overgrown on its eastern side and there are limited views out to the west of the site towards the wind farm. The presence of the cluster and T8 located c.701m to the to the west of the site will have a no impact on the elements of the sites setting which contributes to its significance i.e. on the potential subsurface features in the fields surrounding it, on the relationship the site has to the river to the east and its possible connection to another moated site to the southeast.

The proposed Ballynakill cluster lies between c. 1km– 1.9km (T4 being the closest) to the north of the medieval church and graveyard site in Ballynadrumny (RMP KD001-019). The setting of the site has been altered considerably over time; the wider environment has been encroached by recent road development, farming activity and industrial development and contributes little to the significance of the site and the features that lie within it. Turbines T4 and T5 will be viewed to the north-northwest whilst the remaining turbines will be viewed over the roofline of the adjacent farm complex and modern roadside structures to the northeast. The existing wider landscape around the site makes a limited contribution to its significance. There will be a change in the view out into the wider landscape in the direction of the cluster from the site whereby the views to the northwest through to the northeast will be altered, this indirect visual impact would however do little to interfere with the significance and appreciation of the site and the impact is therefore considered to be imperceptible.

Excluding three excavated sites, a record of a burial and an un-located castle site, there are 10 monuments that lie over 1km and within a 2km radius of the in the cluster (measured to the nearest turbine). Of these sites there are two field systems, a burial ground, and a road/track way, these are low-lying sites within modern field systems. Given their site type and distance from the proposed development it is considered that there will be no impact on their settings. The remaining four sites comprise two mounds (RMP ME014-018, c 1.9km NNE of T1 and KD001-009, 1.4km W of T5), a ringfort (RMP ME047-011, 1.3km NE of T6) and a mound barrow site (RMP KD047-009, 1.9km NW of T5). There will be a visual change to the landscape in the direction Ballynakill cluster however the turbines will not reduce the significance of these sites and the ability to understand or appreciate them or their wider landscape setting. It must also be noted that there some degree of screening offered by the surrounding topography and hedgerows.

- Windmill cluster:

The cluster lies c. 954m north-northwest (from the nearest turbine T25) from the church and graveyard site in Nurney (RMP KD003-008001/002) and will lie beyond setting of the site. The turbines will be viewed above adjacent agricultural buildings and tree lined boundaries that lie immediately to the southeast. While there will be a visual change in the direction of the wind farm cluster it is considered that the presence of turbines in this view will have no impact on the significance of the site.

In Balrinnet there is an unclassified castle (possibly a former tower house), a field system & hollow-way (RMP KD003-005/001-003) is located 1.1km to the northwest of T25 in a separate and distinct landscape, while the wind farm will be seen from the site it is considered that this change in view will not have an impact on the archaeological and historical significance of the low-lying remains within a modern field system. Also in Balrinnet is a Children's burial ground (RMP KD003-006), located 867m NNW of T25, it lies in a disturbed setting adjacent to a quarry and beneath a power line, and is completely overgrown. The cluster lies in a separate and distinct bogland landscape and is well outside the setting of the site and as such is not considered to have an impact on its setting

Mylerstown church and castle (RMP KD003-011 and KD003-012) is located over 1.9km east- southeast of the Windmill cluster. The church site takes in views of the landscape to the west; there is however limited views in this direction from the castle. The Windmill cluster will have a imperceptible impact on the setting of the church site, the presence of the turbines will not impact on the integrated relationship between the castle and the church site nor on their archaeological significance and will not interrupt any potential sightlines or intervisibility that the castle or church site would have had with potentially associated sites for e.g. with had with Carbury Castle to the southwest. The relationship between the site and the landscape would still be easily legible.

- Drehid-Hortland cluster:

The majority of recorded monument in the vicinity of the cluster are associated with tracks across the bog, these sites are subsurface in an already disturbed cutover bog context, the understanding of the setting and environment within which these sites have been obliterated in the past lie will not be impacted by the presence of the turbines in the adjacent landscape.

There is a crannóg site in Dysert (KD004-014001, NMI 1958: 1) c.800m north of T46 in the Drehid-Hortland cluster. Given the existing roadside and the presence of the windfarm to the south will have no impact on the setting of the site.

There will be an indirect impact on the setting of a ringfort and souterrain site in Drehid (RMP KD008-011001/002, Fig. 14.6) which will be surrounded by turbines (T16 is c.390m north, T15 is c.440m northwest, T19 is c.624m south, T18 is c.293m southwest and T17 is c.785m south-southwest). The contribution that the existing setting makes to the significance of these ringfort sites is limited as the field that the site lies in is surrounded by dense afforestation that has removed links to the adjacent watercourse and to any intervisibility between other ringforts. There will also be an indirect impact on a ringfort site (KD004-011) and adjacent habitation site (KD004-010) in a field at the very edge of the bog and a stream in Mulgeeth c. 393m to the south southeast of T13. In both these cases while the sites will not be physically impacted by the proposed turbines, the turbines lie in very close proximity and will be dominant over the site. However the settings of these sites have been significantly altered and the presence of turbines in their vicinity are deemed to have an imperceptible impact on their current setting.

There are two monuments within the former demesne of Hortland, an ecclesiastical, enclosure Church, Graveyard complex (RMP KD004-018001-004) and a motte (RMP KD004-017), located 1.1km east of the cluster. The turbines lie well outside the significant attributes that contribute the setting of the sites i.e. their relationship with one another, their historic association with sites in the surrounding landscape and with the later demesne of Hortland, they are also entirely surrounded by a dense shelterbelt of mature coniferous trees which will provide visual screening. The presence of the wind farm in the landscape to the east is considered to have a no impact on the setting of these sites.

Dunfiirth Church and graveyard (RMP KD004-005/001-004,) is located c.1.3km –1.8km north of the Drehid-Hortland cluster. It is a publically accessible site with an impressive collection of carved medieval stone work. The site is located on a low knoll overlooking the low lying lands to the south; the graveyard is enclosed by a low wall and is surrounded by a dense shelterbelt of deciduous trees which provides the graveyard with a sense of enclosure, inside the graveyard is somewhat overgrown also.

There will be a imperceptible impact on the wider landscape setting outside the boundaries of this site at the cross roads, the sites enclosed nature will provide good screening from within the site and the significance and enjoyment of the sites and the features within it will remain unharmed.

- Derrybrennan cluster:

The recorded archaeological monuments in the vicinity of Derrybrennan are all subsurface in nature and are associated with the crossing of the bog via trackways of gravel/stone or wood. The setting of these sites has altered considerably as a result of the industrial milling that has been carried out across the bog.

- Cloncumber cluster:

The proposed wind farm lies outside the setting of two ringfort sites (RMP KD017-002 and KD017-001, both of which are poorly preserved), an enclosure site (RMP KD012-021, recorded as a cropmark) and an overgrown and inaccessible moated site (RMP KD017-003) all of which are located within 1km of the wind farm. The presence of the cluster in the low-lying lands to the south of these sites will not impact on the key aspect of their setting which is their relationship to the River Slate to the south.

Indirect Impacts on Protected Structures

- Ballynakill cluster:

The undesignated vernacular structure in Moyvally townland on the R160 road is c.800m from T3 and 726m from T4. This structure which lies amongst modern residential properties has a modest setting, one that relates to the property itself, the road and the land immediately surrounding it. The cluster will have no impact on the setting of the cottage, its understanding and significance within the landscape will remain intact.

The Boyne Aqueduct (RPS MH047-201, 831m N of T1), Canal Workers House (RPS MH047-204, 562m N of T1, 958m NNW of T2), Canal Bridge (RPS MH047-203, 603m N of T1), Boyne Viaduct (RPS MH047-200, 831m NWN of T1) and Railway Bridge (RPS MH047-202, 600m N of T1) to the northeast lie less than 1km from the Ballynakill cluster. The settings of these industrial features do not extend a great distance beyond the features themselves and the topography that they cross. The presence of the turbines in their vicinity will have no impact on the setting of these sites. The impact on the canal amenity is discussed in the landscape and visual Chapter 15.

The former Ballynakill corn mill is c. 877m west of turbine T5 on the opposite side of the R148. The cluster lies outside the setting of the mill which can be considered to comprise the mill structure, the adjoining property, the former river channel to the south and its roadside setting. Given its location in relation to the mill the presence of the cluster to the east will not impact on its setting or will it be visually dominant over this large roadside industrial structure. It is therefore considered that the presence of turbines in the views to the west would have no impact on its setting or significance.

The aspect of the setting that contributes to the significance of the protected structures within Longwood village is related to the main street layout and the interrelationships between the structures that face onto it. The cluster is located c1.8km southwest of the village. The route screening analysis (RSA) carried out for the Landscape and Visual assessment (Chapter 15 of Volume 2 of the EIS) indicated that there will be some partial and open views of blade sets down available laneways of village (mostly access to new developments) in the rural landscape beyond the town and also some partial views of blade tips over the single storey structures at the edge of the town. The presence of the wind farm to the southwest of the village will have no impact on the architectural, historical or social significance of the protected structures within the town nor on their association or historic relationship with one another.

The proposed development lies 1.6km northeast of Broadford former School (B03-17) and 2km from Saint Mary's Catholic Church (RPS B03-17). In addition to their architectural and social merit the significance of these sites also lie in their relationship with the structures within linear village itself. The RSA (See EIS Fig. 4A.3(i)) indicate that there will only be partial views of wind turbines when travelling north through the village, they will be screened by the rooftops of the structures within it and also by vegetation. The proposed development lies outside the setting of village; the presence of the wind farm to the north of the village will not impact on significance of these important social structures or on the interaction and inter-relationship they have with the later structures in the settlement.

Ballina (Ballyna) House (RPS B03-12) and demesne has been augmented and modernised to its new use and function as a golf resort. The house and outbuildings remain historic features in the landscape and can nonetheless be appreciated. The cluster is located 1.7km from the curtilage of the main house and 1.2km from its northern demesne boundary, it is located to the north of the M4 which defines the former demesne to the north. The principal house is surrounded by a thick mature shelterbelt of trees to the rear (north) and the turbines will be for the most part screened from view; the main vista from the house which is orientated southeast will not be impacted. The protected outbuildings lie separate from the main house to the west and are enclosed to the north by new accommodation/leisure facility. The cluster lies outside the immediate setting of the demesne in lands have no formal association with it; however there will be partial views of the turbines from within open areas of the demesne lands. The presence of the turbines will not impact on the relationship between the buildings within the demesne, interrupt designed vistas nor will it diminish the significance of the demesne or features of architectural heritage merit and in particular the main house. There will be no impact on the setting of this property.

The Bell Tower (RPS B03-10) in the grounds of Garrisker House and Demesne lie amongst a modern farm complex located within an area defined by mature tree-lined shelterbelt. The wind farm located 1.7km north-northeast from the site and lies well outside its setting and will not impact on the significance of the surviving demesne features. The present house and the farm buildings and the dense shelterbelt of trees surrounding the outbuilding complex will to screen any views of the cluster.

There will be no impact on the setting of Ballinderry House (RPS MH047-109) which is located c. 2km to the east of the wind farm, to the east of the canal, the railway and the river Blackwater. The property will be screened from the proposed development.

- Windmill cluster:

There are two middle size houses that are orientated towards the cluster - Ballinderry House (RPS B03-05) and Balrennet House (RPS B03-09). Balrennet House (RPS B03-09) is located 1km to the north-northwest of the cluster, it has a clearly defined setting one that comprises an enclosed farm complex with a mixture of new and old farm buildings and adjacent farmhouse; there is a mature shelterbelt of trees defining the southern boundary of the property and from the roadside the entrance to the house is framed by a tree lined avenue. There are no clear views into or out of the property; the presence of the wind farm in the direction of the cluster will have a no impact on the significance of the property and the turbines will be substantially screened from view behind the shelterbelt of trees.

Ballinderry House is located c. 1.1km to the northeast of the cluster, west of the main southerly axis of the house. The house has open views of the landscape to the south. The wind farm lies in an appreciably distinct and separate landscape. While the presence of the cluster to the southwest will not impact on the understanding or appreciation of the relationship between the house, its associated buildings, and its immediate surroundings or on views towards the property from the road there will be a noticeable change to the outward views in the direction of the windfarm from the parkland in front of the house, the indirect impact on this aspect of the setting is considered to be slight.

The cluster lies 1.2km –1.8km west of Williamstown House (RPS B03-06) in an appreciably distinct and separate landscape. It lies outside the contained setting of the demesne and will not impact on the architectural and historic significance of the house or they layout of its demesne or the main vista from the house. The mature tree lined boundary to the west of the property and the dense vegetation along the roadside will provide some screening, there may however be blade tips glimpsed from areas within the demesne. It is considered that the cluster will have no impact on significance of this important property.

The cluster is located c. 1.7km northeast of Coolayna House (RPS B08-27) and is well outside the setting of the lands that contribute to the significance of the farm holding. The house is oriented to the southeast and is generously screened by a shelterbelt of trees to the north of it and also by a dense and mature tree lined perimeter boundary to the northeast. It is likely that the wind farm will be substantially screened from view, and will have no impact on the setting of this structure. Teelough House (RPS B08-26) is 1.5km to the southwest of T26, it is almost completely surrounded by dense vegetation, and the proposed wind farm will be screened and will have no impact on the setting of the property. Photomontage KEDR04 (Volume 4) shows the view of the turbines from the road between Coolayna House and Teelough House.

The Haggard and Demesne is located 1.6km south of the wind farm cluster. The wind farm will not be seen from in front of the house, however screening to the rear beyond the outbuildings is limited. It is likely that the three turbines will views from the rear of the property which is much less screened, the presence of these turbines from the lands to the south of the house is considered to have a negligible impact on the elements of setting of the demesne that contribute to its significance.

- Drehid-Hortland cluster:

Knockanally House (RPS B04-10) is located on the summit of a low hill overlooking the north-eastern most part of the Drehid Bog; its prominent siting is intentional with the main house presiding on the surrounding landscape. The landscape however has altered over time and the once wild bogland was industrially milled and afforested. The present day layout of the demesne occurred in the mid- 19th century when Knockanally House replaced another of the same name, the original outbuildings were maintained. The demesne has been developed into a Golf resort with the new buildings focused around the outbuildings and removed from the main house which is used as the club house. The demesne is for the most part intact. The proposed Drehid-Hortland cluster lies outside the physical setting of the demesne and the lands associated with it; however given the southern aspect of the house and the sloping nature of the land there is likely to be an indirect impact on the wider landscape setting of the site whereby the turbines will alter the view captured by the house of the low-lying landscape to the south from the house, particularly T46 which is the closest (c.1km to the southeast). This indirect impact however will not impact on the historical integrity or understanding of the site and its context and is considered to be slight.

Newpark House (RPS B09-09) is surrounded by a dense shelterbelt of mature trees; it is orientated to the southeast and has farm buildings to the rear (north). The proposed Drehid-Hortland cluster lies outside the physical setting of the demesne and the lands associated with it. Turbine T40 lies c. 861m northeast of the property. There will be no view of the turbine from the within the immediate vicinity main house as it is enclosed by mature trees. The full blade set of the turbine will be seen from within the parkland area to the northwest and there will be glimpses of the turbine along the entrance way to the house over the tree line to the northwest. While the turbine will be viewed from locations within the property it will not impact on its significance or crucially on the axis of the main house.

The proposed cluster will be viewed in the distance to the west from locations within Hortland demesne, it will not impact on the setting of the relict demesne, on features within it or on the recorded monuments incorporated into it.

- Derrybrennan cluster:

There are no protected structures located within 2km of the Derrybrennan cluster.

- Cloncumber cluster:

The cluster lies outside the setting of Bushfield House (RPS B17-09). Given the proximity of T39, located c. 305m to the north northeast there will be an indirect visual impact on the property. There will also be a change in the view towards the house from the road to the east where turbines T39, T38 and T37 will be visible behind the structure. The presence of the turbines however will not diminish the historical, social, and technical significance of the site and the impact on the setting of this property is therefore considered to be imperceptible.

In Cloncumber, turbine T33 will have a no impact on the setting of two metal foot bridges that cross over the Slate River (RPS B17-05A) (c. 480m and c. 602m west). The presence of the turbines in their vicinity will not impact on the function or on the significance of these sites.

The presence of turbines in the view of the low-lying landscape to the west of the Ballyteige Castle (RPS B13-01) will be changed. The contribution of the setting to the sites significance includes its associated complex of outbuildings in its immediate vicinity and the low-lying fields that are immediately surrounding it and the cluster lies well beyond this. On approach to the castle turbines T30 and T29 will be seen behind the castle view at and at a distance of c1.2km, they will be similar in scale but will not be dominant over it, it is considered that there will be no impact on the setting of the site.

There are three protected structures that lie on the ridge of land to the south in Feighcullen i.e. the Church of Ireland Church (RPS B17-07), Feighcullen House (RPS B17-10) and the Glebe House (RPS B17-11), the cluster lies well outside their immediate setting and will have no impact on them.

The Cloncumber cluster, lies adjacent to the Grand Canal Agar Bridge (RPS B17-15), Glenaree and Lock 22 (RPS B17-16), Shea Bridge (RPS B12-02) and Huband Bridge (RPS B13-25). The sites are of technical and social interest and have quite an immediate setting it is not considered that the proposed development will impact on their setting and as they will retain their special historic and engineering and technical interest.

The Grand, Royal and Barrow Way Canal systems

The proposed clusters on the eastern side of Ballynakill and at Cloncumber lie in the immediate vicinity of the Royal Canal and the Barrow Branch of the Grand Canal, while Derrybrennan lies to the south of the Grand Canal. The canal has changed its function from an obsolete eighteenth century industrial feature to a valued and tranquil linear waterway amenity. For the most part the narrow linear canal corridors are enclosed by shelter of vegetation and the turbines clearly lie outside of this. The sites are of technical and social interest and have quite an immediate setting, the proposed development will have no impact on their setting, these features will retain their special historic and engineering and technical interest. There will be an indirect visual impact on the canal at accessible points along it, for example at canal bridges, locks, Lock Keeper's Houses and aqueducts, many of which survive in good condition and are generally maintained. The visual impact on the amenity of the canal is discussed in Chapter 15.

Rathangan Architectural Conservation Area (ACA)

The proposed Maighne Wind Farm will not impact on the setting or general character of Rathangan ACA. The wind farm lies outside the enclosed setting of the ACA and will not impact on the general character of the town or the structures within it. The route screening analysis carried for the landscape and visual assessment (Chapter 15) shows that for the most part the wind farm will be almost fully screened from within the ACA and from the roads into and out of the town.

14.4.3 Potential Cumulative Impacts

There are no existing or permitted wind farm sites within the immediate vicinity of the Maighne Wind Farm. The closest sites are in County Offaly.

The existing Mount Lucas wind farm is located c. 17km to the west of Maighne; it comprises 28 wind turbines with a hub height of 100m. The permitted Yellow River wind farm development c. 11 km to the west and comprises 32 turbines, 13 of which have a hub height of 100m with the remaining nineteen having a height of 110m. In County Westmeath there are three turbines in Crowinstown, c.21km north northwest of the Maighne Wind Farm with a hub height of 85m and also a single permitted turbine in Dryderstown that has a hub height of 64m.

The existing wind farms are not viewed from the cultural heritage assets within the immediate vicinity of the proposed wind farm due to the topography in the general area and the distance of the wind farms. It is not anticipated that there will be any increase in terms of indirect impacts on the setting of monuments and protected structures within the immediate vicinity of the Maighne Wind Farm due to the occurrence of these distant wind farms.

Cumulative impacts however will occur when the wind farm is viewed from long range distances. For example from the Hill of Tara the permitted Yellow River wind farm will be viewed in the distance alongside the Maighne Wind Farm. Similarly the proposed development will be viewed along with Mount Lucas and Yellow River wind farms from Dunamase and also along with Yellow River Wind Farm from Trim castle. There will also be cumulative visual effects from Croghan Hill. The cumulative visual impacts are discussed in detail in Chapter 15.

14.4.4 Potential Impacts during Decommissioning

There will be no significant potential impacts on the archaeological, architectural and cultural heritage environment during the decommissioning of the development as the established access tracks are used for the dismantling and removal of the built features of the wind farm.

14.5 Mitigation Measures

14.5.1 Construction

The following mitigation measures will be carried out in advance of construction. All archaeological works will take place under licence to the National Monuments Service of the Department of Arts Heritage and the Gaeltacht (DAHG).

Archaeological Assessment

Archaeological investigation in the vicinity of Turbines T6 (in Ballynakill), T47 (in Drehid-Hortland), T33 and T35 (in Cloncumber) and their access tracks and cables will be carried out well in advance of construction upon grant of permission as they lie in close proximity to potential sites and recorded monuments. A combined programme of geophysical survey and test excavation will take place at these locations. This will establish the exact nature, date and extent of any potential archaeological features that might exist at these locations and the impact that the proposed turbine and access track/cable will have on them.

The results of the testing will inform a suitable mitigation strategy to be discussed and agreed with the DAHG. If development is permitted, full excavation/ preservation by record of previously unknown features directly impacted by the development will be carried out in advance of development.

The areas of the site that will not be subject to impact will be preserved 'in-situ' and will be fenced off during construction to ensure that there is no accidental damage to the subsurface archaeological remains that lie outside the construction area. A cordoned off construction corridor, that has been archaeologically resolved prior to construction, will be maintained so that machinery, equipment, spoil or fill material etc. will not be placed in the areas that contain subsurface archaeological remains.

The three turbines T24, T25, T26 in Windmill cluster and their access tracks and cables will require archaeological testing in advance of construction works under license to the DAHG. Should archaeological features be identified a suitable mitigation strategy, either full excavation, preservation in situ or avoidance by redesign will be agreed with the DAHG.

Archaeological Monitoring during earthmoving works:

Given the general archaeological potential of this landscape all earthmoving/excavation works associated with the development of:

- Turbine foundations
- Access tracks
- Hardstands
- Internal cables
- Substations
- Borrow pits
- Met mast
- Temporary construction compounds

(which includes the areas of archaeological potential i.e. the greenfield areas, river crossings, townland boundaries and bogland etc.) will require archaeological monitoring under licence to the DAHG in accordance to National Monuments Act 1930, as amended.

The purpose of monitoring is to determine if any archaeological material or features are uncovered during ground disturbance works. In the event of the discovery of archaeological finds or remains, the DAHG and the NMI will be notified immediately. Provision will be made to allow for, and fund any, archaeological work that may be needed if any remains are noted. If features are revealed, the immediate area will be investigated, allowing no further development to take place until the site is fully identified, recorded and excavated or alternatively avoided to the satisfaction of the statutory authorities.

Any archaeological investigation in the bogs will also require paleo-environmental sampling that would complement the examination of the past environment.

Cultural Heritage

The derelict vernacular cottage (CH3) in the Ballynakill cluster should be cordoned off with robust fencing around the structure during construction to prevent accidental machine damage to the structure.

The removal of sections of the townland boundaries disturbed as a result of the construction of the access tracks will also be recorded in advance of the site preparation stages of the development and their removal monitored.

MV Cable

Archaeological testing of the route of the MV cable as it runs offline at Lullymore West, before joining the R414 will be required, this is also the line of a proposed haul route. The testing will establish the exact nature and extent of the recorded road / gravel trackway in Lullymore West (RMP KD012-016) at this location and a suitable mitigation strategy can then be designed in consultation with the DAHG; such a strategy might include redesign by avoidance, preservation in situ by bridging the feature or full excavation.

Licensed archaeological monitoring in the areas along the MV cable routes that pass in the vicinity of recorded archaeological monuments will be required. That is in the vicinity of the Children's Burial Ground (RMP KD003-015) and a church and graveyard (RMP KD003-014002) in Cadamstown, a medieval church, graveyard and castle site in Dunfierth (RMP KD004-005 and KD004-006) and a crannog and trackway in the townland of Dysart/Knockanally (RMP KD004-014).

HV Cable Routes

- *HV Cable Route to Woodland*

Archaeological monitoring in the vicinity of the settlement of Cloncurry (RMP KD004-021002) and of Mulhussey Church, graveyard and castle site (RMP ME049-011, ME049-012) will assist in identifying any remains during the trench excavation required for the cables in the external road network.

- *HV Cable Route to Maynooth*

Archaeological testing under ministerial consent will be required along the line of the HV cable route option to Maynooth on the L5037 road in the vicinity of Taghadoe National Monument. The testing will establish whether features associated with the site extend beneath the road surface. If features are identified their nature and extent will be recorded and a suitable mitigation strategy can then be considered in consultation with the DAHG; such a strategy might include redesign by avoidance or full excavation.

Archaeological monitoring of the sections of this HV route option that passes adjacent to the church and graveyard and castle site in Dunfierth (RMP KD004-005 and KD004-005) and a crannog and trackway in the townland of Dysart/Knockanally (RMP KD004-014) will assist in identifying any remains during the trench excavation required for the cables in the external road network.

Node Upgrades for Turbine Delivery Routes

The construction team should be made aware of the locations of those RPS / NIAH sites that are situated in the immediate vicinity of the proposed delivery and cable routes. All precautions should be taken to ensure that there is no accidental impact on any of the boundary treatments associated with these sites/structures during the construction phase.

It is proposed to upgrade the existing bridge at Kilpatrick where a modern 20th century bridge crosses the Grand Canal. It is recommended that any proposed works in this location will avoid impacting the 18th century canal or canal banks (KDIAHS-012-002). A full photographic record of the structure will be carried out.

As a best practice measure a baseline condition survey will be carried out at Johnstown Bridge (RPS B04-25), Fear English Bridge (RPS B04-24) and Agar Bridge (RPS B17-15) and the numerous structures and the crossings of features identified along the haul/delivery routes in the respective county industrial heritage surveys. This will be undertaken to record baseline data which will be monitored during construction phase.

Where the haul route runs offline at Lullymore West, archaeological investigation at the site of a gravel trackway in Lullymore West (RMP KD012-016) will be carried out well in advance of construction and will assist in devising a suitable mitigation strategy in consultation with the DAHG. It is anticipated that all archaeological issues associated with this area will be resolved before the MV cable or the haul road is constructed to the satisfaction of the DAHG.

Indirect impact on setting mitigation

There is no mitigation possible for this potential impact; instead mitigation by design was carried out during the EIA process. Using a GIS spatial data the archaeological, architectural and cultural heritage features identified during the baseline study and field survey work were used as a tool by all consultants. Arriving at the final proposed layout was through a series of iterative phases and interaction with all of the technical consultants.

Turbines were excluded in Drehid and Timahoe where they were found to dominate the view of Newberry Hall from Carbury Hill and castle. Additional turbines were dropped around Lullymore Monastic site where the turbine was found to be dominant over the national monument. Where possible access tracks followed existing tracks or when new tracks were required took the shortest possible routes, where possible, to minimise the amount of ground disturbance required. Approximately 10km of out of a total 41km of access tracks to be constructed will use existing tracks.

General

Attention is drawn to national monuments legislation (1930-2004), which states that in the event of the discovery of archaeological finds or remains, the Heritage and Planning Division of the Department of the Environment, Heritage and Local Government and the National Museum of Ireland should be notified immediately. In such a scenario, the archaeological finds or remains will need to be investigated, and no further development will take place in that area until the finds or remains are resolved in agreement with the relevant authorities.

During the construction phase all mitigation measures will be undertaken in compliance with national policy guidelines and statutory provisions for the protection of the archaeological, architectural and cultural heritage.

14.5.2 Operation

All physical archaeological, architectural and cultural heritage impact issues will be resolved at the pre-construction stage of the development and therefore there will be no potential impacts at the operation stage of the development. There are no appropriate mitigation measures to remedy the indirect impacts on the setting of features within the wider landscape.

14.5.3 Decommissioning

No mitigation measures will be required during the decommissioning phase. The same level of baseline recording and monitoring of the bridge structures along the access routes will be required.

14.6 Residual Impacts

Residual impacts are the degree of environmental change that will occur after the proposed mitigation measures have taken effect. No residual impacts are envisaged as all archaeological and cultural heritage issues will be resolved at the pre-construction and construction stages of the development.

It must be acknowledged however, the indirect impact on the setting of some heritage assets will remain for the lifetime of the wind farm. However as part of a collaborative and iterative design development process every effort was made to avoid, eliminate or minimise adverse impact on the attributes of the recorded cultural heritage assets, the design and layout and number of turbines were altered in order to minimise impacts by reducing, moving turbines and removing turbines from the proposal.

The modern landscape of north County Kildare is the result of processes of change and modifications over the millennia, understanding how these are represented in today's landscape is critical in providing a time-depth analysis on the cultural landscape and identifying areas of unique character, sensitivity vulnerability and its capacity for change.

The landscape within which the proposed Maighne Wind Farm will be placed is generally low-lying agricultural land with a vast central area of cutover bogland. This landscape whilst changed is an important repository of historical and archaeological information spanning some six-thousand years of human settlement and activity, the earliest of sites being almost exclusively found within the bogs.

The canal was the initial catalyst which led to the drainage of the bog and also to the first wave of industrialisation of the landscape where new flour and cornmills were developed harnessing both water power and wind power, bringing with them middle sized houses often adjacent to the mills and intensification in agriculture.

The expansion and development of transport networks in the form of eighteenth century canal and nineteenth century rail links to modern motorways and link roads lead to the initial increase in dispersed settlement patterns in the landscape that may have otherwise not been accessible.

The receiving cultural heritage landscape that surrounds the proposed Maighne Wind Farm has been particularly altered over time through the exploitation of the Bog of Allen since the 1950's. The general character is represented by modern activity such as the industrialised peat extraction of the large bogs of Timahoe and Derrybrennan/Lullymore initially. The associated village and roadside settlements for the Bord na Mona workers grew up around the bog. Afforestation along the accessible edges of the bogs is now a new feature in the landscape. There are also several electricity transmission lines which run through the northeastern part of the study area lands.

The lands beyond the southern boundary of the wind farm are characterised by the by a range of hills that run from Kildare to Rathangan and consist of several elevated topographical high points in the otherwise flat surrounding landscape –included is the Hill of Allen, The Chair of Kildare, Dunmurry Hill and Grange Hill. Extensive quarrying has occurred within these gravel rich deposits quarrying of gravel ridges and low hills, similarly in the eastern part of the study area the low ridges around Carbury have also been extensively quarried.

All these changes have demonstrated that it is a highly dynamic landscape of industry that is changing over time. This appraisal has revealed continuity and change in land use with the physical environment adapting and moulding to reflect changes in settlement and resources. The former industrial canals are now areas of amenity and the bogs are now a valuable education resource.

The wind farm would represent a further change to this landscape in the form of a visual alteration in the landscape that will, for the lifetime of the wind farm, change aspects of the rural character of the area. The development of a wind farm in this landscape will continue a long tradition of industrial development and energy production in the region, the historic features that are present will still be legible and will remain intact.

Given the nature of the landscape within which the development occurs and the nature of the archaeological features, notwithstanding having two nationally significant sites at Carbury Hill and Lullymore within it, it is thought that the immediate landscape within which the wind farm lies is one that would be suitable to absorb this development from a cultural heritage perspective.

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